Role of the University of Waikato

Consistent with its statutory role as a New Zealand university under section 162 of the Education Act 1989, the University of Waikato

- is primarily concerned with more advanced learning, the principal aim being to develop intellectual independence
- delivers research and teaching that are closely interdependent, with most of the teaching done by people who are active in research
- meets international standards of research and teaching
- is a repository of knowledge and expertise
- accepts a role as critic and conscience of society.

The University plans and operates in accordance with its Charter (www.waikato.ac.nz/charter/) and Vision (www.waikato.ac.nz/vision/).

Its Mission, as stated in its Charter, is ‘to combine the creation of knowledge through research, scholarship and creative works with the dissemination of knowledge through teaching, publication and performance’.

The University’s motto ‘Ko Te Tangata’, symbolises our commitment to our role under the Treaty of Waitangi. It also emphasises the role of collegiality and the importance that we place on people.

We apply the following values in all our activities and operations:

- partnership with Māori/Tū ngātahi me te Māori
- acting with integrity/Mahi pono
- celebrating diversity/Whakanui i ngā huarahi hou
- promoting creativity/Whakarewa i te hiringa i te mahara.

Strategic Planning in an Outcomes Framework

Alongside all other universities in New Zealand, the University of Waikato operates within a planning and accountability framework focussed on outcomes, as shown in figure 1.
Reports compiled and published by the Ministry of Education (primarily Outcomes of the New Zealand Tertiary Education System, Smart, 2006) provide a synthesis of evidence of the significant and positive outcomes of the country’s tertiary education system.

**National and Regional Needs Analysis**

The Waikato/Bay of Plenty is a region experiencing growth in population and economic activity; the region is a significant contributor to the nation’s economic output and contributes 14.2% of New Zealand’s Gross Domestic Product and 15.9% of New Zealand’s population. However, in order to address current limitations around qualifications and deprivation in the region, additional investment is required in tertiary education to ensure that the twin regions can improve their contribution to the New Zealand economy and New Zealand’s global advancement.

Declining birth-rates across the late 1990s and into the early 2000’s are now resulting in a decline in the population in the 13-18 year old population group with the map clearly showing that all territorial authorities experienced this trend over the period 2006-2013. Over the next 5 years, growth at these ages will return, but it will be both patchy and temporary, as a recent baby blip – born 2002-2008 – reaches those ages and flows through New Zealand’s high school classrooms. In the interim, New Zealand will see around 20,000 fewer school leavers (15-19 years of age), and a further 8,000 fewer the following 5 years. Numbers will then similarly – but again only temporarily – surge.

Population growth will not be shared evenly across the country. Indeed, the population growth rate for Waikato (1.9%) and Bay of Plenty (1.7%) was higher than the national average over the 12 months to December 2014 and 3rd and 4th equal largest increases nationally – behind Auckland and Canterbury.
Waikato is one of few territorial areas where growth is anticipated outside the 65+ age range over the period 2016-2021; subsequently potential university entrant numbers – both as school leavers and post school leavers – will be affected to a lesser extent than other regions.

Population growth for Māori is expected at higher rates than other ethnic groups as a result of continued high birth rates which have resulted in high levels of natural increase for the period 2016-2021; Pacific birth rates will also increase over the period and will be supplemented by small levels of net migration gain; Asian migration is expected to fall to lower levels and be supplemented by relatively flat natural increase. NZ European natural increase will continue to fall but will be partially offset by a net migration gain over the same period.

It is also important to note that over the next few years most territorial areas will have more people leaving the workforce than entering; school leavers will face real opportunities to enter the job market without qualifications and this will provide even more competition for the reduced number of school leavers. Further, demand and opportunities in the job market for a smaller number of skilled workers may prove a disincentive for further study for those with an existing qualification.

The University of Waikato generates a significant proportion of its students from its core region of Waikato/Bay of Plenty; in 2015, the University generated 75% of its domestic students from this region.

When the populations of the Waikato (4th largest) and Bay of Plenty (5th largest) regions are combined, they make the second largest region, by population, in New Zealand after Auckland. The Waikato and Bay of Plenty regions also have relatively high proportions of Māori. A total of 22.7% of the Waikato/Bay of Plenty region’s population identified as Māori, compared with 14.1% of the national population. Accordingly, population growth by Māori (as noted above) will have a more significant effect on the Waikato and Bay of Plenty than most other regions.

Of significance to the University of Waikato is the long-term economic health of its core regions (Waikato and Bay of Plenty). It is generally accepted that tertiary education is a catalyst for economic development and that there is a strong interrelationship between resident population qualifications and economic prosperity.

Indeed, the Ministry of Education has stated that “the outcomes of tertiary education are numerous: for the economy, society and the individual. Overseas studies suggest that tertiary education is the key to raising labour productivity and through this, economic growth. Higher levels of education are associated with better health and lifestyles, and lower crime rates. Furthermore, the evidence shows that enrolment and completion of tertiary qualifications, even sub-bachelor qualifications, have greater labour force participation and on average, earn higher incomes” (Ministry of Education, 2008) (page 7).

Evidence that the Waikato/Bay of Plenty regions have been under-resourced is clear through the deprivation index score for both the Waikato (5.7) and Bay of Plenty (6.1) regions, as reported by the Ministry of Business, Innovation and Employment; these scores are higher than any other region in New Zealand that is home to a major city, and reflect other economic factors such as annual household income and the proportion of households with an income of $100k or more – against both indicators the Waikato and Bay of Plenty regions also track significantly behind other regions that are home to a major city.
As evidenced by the table below, both the Waikato and Bay of Plenty regions also trend behind the national average for the proportion of the population aged 15+ that have a bachelor’s degree or higher.

### 2013 Census – Highest qualification by regional council areas

<table>
<thead>
<tr>
<th>Regional Council</th>
<th>No of resident population aged 15+ with bachelor's degree or higher</th>
<th>Total resident population aged 15+</th>
<th>Proportion of population aged 15+ with bachelor's degree or higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northland</td>
<td>12,501</td>
<td>118,938</td>
<td>10.5%</td>
</tr>
<tr>
<td>Auckland</td>
<td>245,001</td>
<td>1,119,195</td>
<td>21.9%</td>
</tr>
<tr>
<td>Waikato</td>
<td>44,745</td>
<td>316,155</td>
<td>14.2%</td>
</tr>
<tr>
<td>Bay of Plenty</td>
<td>26,106</td>
<td>210,018</td>
<td>12.4%</td>
</tr>
<tr>
<td>Gisborne</td>
<td>3,549</td>
<td>32,922</td>
<td>10.8%</td>
</tr>
<tr>
<td>Hawke's Bay</td>
<td>14,247</td>
<td>118,284</td>
<td>12.0%</td>
</tr>
<tr>
<td>Taranaki</td>
<td>9,324</td>
<td>86,466</td>
<td>10.8%</td>
</tr>
<tr>
<td>Manawatu-Wanganui</td>
<td>22,515</td>
<td>177,123</td>
<td>12.7%</td>
</tr>
<tr>
<td>Wellington</td>
<td>96,528</td>
<td>379,311</td>
<td>25.4%</td>
</tr>
<tr>
<td>Tasman</td>
<td>4,974</td>
<td>37,722</td>
<td>13.2%</td>
</tr>
<tr>
<td>Nelson</td>
<td>6,306</td>
<td>37,692</td>
<td>16.7%</td>
</tr>
<tr>
<td>Marlborough</td>
<td>4,062</td>
<td>35,664</td>
<td>11.4%</td>
</tr>
<tr>
<td>West Coast</td>
<td>2,274</td>
<td>26,001</td>
<td>8.7%</td>
</tr>
<tr>
<td>Canterbury</td>
<td>71,466</td>
<td>438,741</td>
<td>16.3%</td>
</tr>
<tr>
<td>Otago</td>
<td>30,045</td>
<td>167,553</td>
<td>17.9%</td>
</tr>
<tr>
<td>Southland</td>
<td>7,635</td>
<td>74,145</td>
<td>10.3%</td>
</tr>
<tr>
<td>TOTAL NZ</td>
<td>261,603</td>
<td>1,621,848</td>
<td>16.1%</td>
</tr>
</tbody>
</table>

It is of note that the Waikato and Bay of Plenty regions have the lowest proportion of EFTS provision at level 7-8 of any region with a university, and that the Waikato region has a very high proportion of tertiary provision by ITPs and Wānanga in comparison with other regions with a university. The predominance of low-level tertiary education provision within the Waikato/Bay of Plenty region is likely to place a limitation on the economic development of the region. The University remains committed to upskilling the populations of the Waikato and Bay of Plenty and enabling individuals to achieve their potential and contribute to the ongoing economic health of their region and the country, and seeks the support of the Tertiary Education Commission to increase the volume of EFTS provision at level 7-8 and above in the region and to help support the economic advancement of the region.

The Waikato and Bay of Plenty regions have a lower proportion of their working age population in employment (64.35 and 62.9% respectively); particularly when compared with the Auckland, Otago, Wellington and Canterbury regions.

Labour market statistics show that even though the labour force participation rate has continued to fall (a legacy of the aging New Zealand population), the national unemployment rate had fallen to 5.3% in December 2015; the Waikato unemployment rate was slightly below the national rate at 5.1% (down from 6.1% in December 2014) while the unemployment rate in the Bay of Plenty was higher than the national rate at 6.2% (up from 5.7% in December 2014).

The Waikato and Bay of Plenty regions, like most other regions with the exception of Auckland, have very small number of migrants entering their population; labour market shortfalls in these regions are highly unlikely to be addressed by new migrants.

The Waikato and the Bay of Plenty regions have a higher proportion of young people (18-24 year olds) who are not in education, employment or training (Waikato 14.8%, Bay of Plenty 13.8%) than any other region that is home to a major city. Through a range of different initiatives, including Te Ara ki Angītū and
pathway arrangements through other tertiary providers, the University is committed to providing tertiary study options for these students. The University’s Tauranga CBD Campus development will provide enhanced education opportunities for students in the Bay of Plenty region.

In 2014, the Waikato and Bay of Plenty regions had a lower proportion of secondary school students who leave with NCEA Level 3:

<table>
<thead>
<tr>
<th></th>
<th>≥ NCEA Level 3</th>
<th>&lt; NCEA Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auckland</td>
<td>59.4%</td>
<td>40.6%</td>
</tr>
<tr>
<td>Waikato</td>
<td>44.1%</td>
<td>55.9%</td>
</tr>
<tr>
<td>Bay of Plenty</td>
<td>49.0%</td>
<td>51.0%</td>
</tr>
<tr>
<td>Wellington</td>
<td>58.0%</td>
<td>42.0%</td>
</tr>
<tr>
<td>Canterbury</td>
<td>52.2%</td>
<td>47.8%</td>
</tr>
<tr>
<td>Otago</td>
<td>53.5%</td>
<td>46.5%</td>
</tr>
<tr>
<td>ALL New Zealand</td>
<td>59.8%</td>
<td>50.2%</td>
</tr>
</tbody>
</table>

While the Ministry of Education (2008) noted that “academic achievement while at secondary school is a good indicator of school leavers’ tertiary education enrolment behaviour”, it is important to note that a key role of tertiary education in New Zealand is to provide opportunities for individuals to improve outcomes, both for themselves and the nation, as a result it is equally important to note that research has indicated “the numbers of school leavers who go onto tertiary education within five years of leaving school are high – 75 per cent of all school leavers from 2001 had participated in tertiary education by 2006” (Ministry of Education, 2008). This research reflects the experience of the University of Waikato where a higher than typical proportion of its new students each year are not school leavers.

In 2014, the Waikato and Bay of Plenty regions had the highest proportion of school leavers who identified as Māori:

<table>
<thead>
<tr>
<th></th>
<th>European</th>
<th>Māori</th>
<th>Pasifika</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auckland</td>
<td>46.5%</td>
<td>12.5%</td>
<td>22.0%</td>
</tr>
<tr>
<td>Waikato</td>
<td>65.1%</td>
<td>28.6%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Bay of Plenty</td>
<td>61.6%</td>
<td>37.3%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Wellington</td>
<td>65.3%</td>
<td>17.2%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Canterbury</td>
<td>81.3%</td>
<td>9.7%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Otago</td>
<td>86.8%</td>
<td>9.0%</td>
<td>1.5%</td>
</tr>
<tr>
<td>ALL New Zealand</td>
<td>61.9%</td>
<td>20.6%</td>
<td>10.3%</td>
</tr>
</tbody>
</table>

While not part of the University’s core region, the University has a very long and established relationship with the Gisborne region. As noted by MBIE on most measures of living standards Gisborne is underperforming relative to the rest of New Zealand. Mean and median incomes are among the lowest in the country and the region’s labour force is relatively unskilled. The University is committed to working with communities in the region to improving outcomes, and delivering on MBIE’s observation that the region would significantly benefit from improvements to educational attainment rates, skills and employment opportunities which would flow on to better economic and social outcomes for the region. To this end the University will be working with employers in the region to help facilitate opportunities for students to undertake work experience in the region and bring the skills that they are developing as part of their tertiary study back to their region.

A University of Waikato survey of Year 13 students in the Waikato (Marsh, 2016) revealed continued strong demand for business programmes, teacher education, tourism and travel, social science and engineering. Of the student surveyed in 2015, 84% intended to progress to degree-level study either in 2016 or 2017. Half the students surveyed intended to undertake tertiary study in Hamilton, with 37% planning to leave the Waikato and 13% of students unsure. The most popular institutions students identified for degree study were Waikato (49% of students), Auckland (16%), Otago (10%), Massey (9%) and Victoria (8%). A key driver for students planning on studying at the University of Waikato was the ability to stay at home.
MBIE, in its 2015 Regional Economic Activity report, identified that high-tech industries such as agritech and ICT were of increasing importance to the Waikato region, while employment growth in education and healthcare in the Bay of Plenty were of significance to that region.

In addition to demonstrated strong demand for business programmes, teacher education, tourism and travel, social science, ICT, healthcare and engineering, demographic trends show likely shortfall in teachers and post-secondary educators. These patterns of demand will guide, but not dictate, the University’s offerings over the period of this Investment Plan. It is important to recognise that while particular qualifications and areas of study are currently attractive given the rapidly changing employment environment, it is of more relevance that the University’s focuses on imparting key graduate attributes (see Curriculum Development section) that will equip students for the future.

**Strategic Goals and Direction**

The University of Waikato is currently developing a new Strategy for the period 2017-2021. While it is anticipated that the University’s strategic goals will remain consistent with its 2014-2017 Strategy, it is likely that the new goals will be more aspirational and will provide more specific detail about how the University will deliver these.

The University’s current high level goals/actions are to:

- provide a relevant, future-focused curriculum and world-class student experience
- conduct world-leading research and develop innovative researchers
- strengthen engagement and partnerships regionally and nationally
- implement a comprehensive programme of internationalisation
- embed a culture of innovation, entrepreneurship and leadership across the University
- ensure sustainable practices in all aspects of University activity.

As noted above, while the specific goals for the period 2017-2021 have yet to be confirmed, the University is continuing to work towards achieving its current goals.

**Stakeholders and Meeting Their Needs**

On-going local, regional and national engagement is crucial to the University’s future relevance. High-level engagement with the University’s community of stakeholders also ensures that we are contributing to the development of this region and nation as we advance knowledge and research on global economic, social and environmental issues.

We continue to work with Crown Research Institutes (CRIs) and other research entities to expedite the development of joint postgraduate programmes in areas aligned to our academic strengths. We also continue to extend our collaborations with local and central Government, District Health Boards, businesses and co-operatives to increase access to undergraduate internships, postgraduate research placements and graduate employment opportunities.

Our collaborations with world-leading universities and businesses are dynamic and interactive and lead to

- the design and delivery of research programmes that are relevant to current and future business needs, ensuring progression opportunities at every level of achievement and a smooth transition between the different environments of universities and business
- graduates who seek knowledge and skills that are relevant to their future careers and who are confident in their ability
- opportunities for students to integrate work experience and study, ensuring connectivity between academic study and the world of employment
- a culture amongst university students and staff where success in enterprise and entrepreneurship is celebrated, rewarded and promoted
businesses effectively and efficiently updating employee skills and seeing universities as a natural source of the expertise to do so
graduate employment that aligns with business need with graduate skills
sustaining world-class research, attracting the best talent to NZ, developing research informed leaders in both universities and business, and ensuring that there is a constant exchange between academia and business of research ideas and people
a culture of pursuing the application of University-based research excellence, ensuring that University research capabilities are fully exploited in generating economic wealth, optimising the use of government support in research, innovation and development
collaboration with Government agencies to undertake regular forecasts to co-identify areas of future knowledge and capability creation, where research investment should be allocated and, wherever possible, collaboratively developed and resourced.

The University has developed strong relationships and networks with communities and businesses to ensure that its programmes and qualifications are relevant and responsive to student and employer needs as well as the needs of the community. The University is also responsive to a range of social and economic goals that have been identified as priorities by Government. The University engages with industry groups, community members and employers through a wide range of means, including

collaboration with Government agencies to undertake regular forecasts to co-identify areas of future knowledge and capability creation, where research investment should be allocated and, wherever possible, collaboratively developed and resourced.

Industry-Business Advisory Board
A key step in the University’s cementing of strong industry links was the establishment of an Industry-Business Advisory Board (IBAB). The purpose of the IBAB is to provide strategic guidance and practical assistance to the University of Waikato in engaging with industry and business by leveraging their expertise, capability and networks. It has led to the following benefits for the University:

- increased research and research funding (demand and supply side)
- increased commercialisation of intellectual property and taking a more commercial approach to the management of University assets such as the halls of residence
- better integration of work placements and practice-based components into a broader range of areas of the teaching curriculum
- industry and business input into the design and review of academic programmes
- alignment of capability development with economic need
- advice on all aspects of industry and business activities and engagement that are relevant to the University’s research, commercialisation and education goals
- support for the acceleration of product development and commercialisation
- support for, and development of, interdisciplinary teams focussed on key research areas with industry representatives as required
- support for engagement with Māori and iwi business
- support of open innovation and partnerships for intellectual property.
Waikato’s Distinctive Contribution

The University of Waikato is recognised for its engagement with Māori, its work in the environment and its strength in computer science and education. Over the period of this Investment Plan, the University will be targeting investment into the development of the areas of civil and environmental engineering, freshwater, health and sport science, and agri-tech.

The University’s key areas of distinctiveness are closely linked to areas where the University can demonstrate national leadership. The University views national leadership as an area that has a research group that is of high quality and demonstrates one or more of the following criteria: is not replicated anywhere else in NZ, the average quality score for the group in PBRF is, or is anticipated to be, 6.0; the profile of the research group is such that it is a draw card for potential staff and students; The University is also internationally ranked in the following subjects: Education, Linguistics, Geography and Area Studies, Accounting and Finance, Business and Management, Communications and Media Studies, Law, Computer Science, Economics and Econometrics, Sociology, and Modern Languages.

Over the period of this Investment Plan, the University will be investing in the following areas of national leadership to ensure their continued sustainability.

The University’s existing and potential areas of national leadership are:

- Arts and Social Sciences, including the transport research group and demographic and economic analysis
- Computer Science, including machine learning, digital libraries, computer networks and cyber security.
- Education, including educational research, early-years research, Māori and indigenous education and sport and human performance
- Law, including Māori and indigenous governance, cyber law, resources and energy law
- Management, including economics and management communication
- Māori and Indigenous Studies, including indigenous studies, Te Reo/Tikanga, Māori astronomy, Māori translation
- Science and Engineering, including materials – titanium, bio-composites, agritech, Antarctic terrestrial biological research, freshwater research and management, biodiversity restoration and urban ecology, coastal marine solutions.

Research Activity

The excellence and relevance of university-based research is central to innovation, and of fundamental importance to the intrinsic, economic and social values of society. Over the period of this Investment Plan the University of Waikato will continue to build its research capability and its reputation for excellent research, which is reflected in both national and international indicators, both at the subject and university level. It will focus on maintaining its role as a prominent source of research expertise and will invest in its premier concentrations of established excellence, interdisciplinary research and valuable nationals and international partnerships.

A wide range of the quality research being undertaken at Waikato is leading to positive outcomes for New Zealand and overseas. The mission-led nature of much of the University’s research requires highlighting the relevance and application of research being undertaken, to work closely with research partners – including industry, communities and other research institutions and encouraging students to participate on projects that will enhance their research skills and technical knowledge. Over the period of this Investment Plan the University is committed to enhancing the interdisciplinary and applied nature of its research programme. As noted above, the University is strongly committed to the concept of interdisciplinary research; it firmly believes that, in order for research to have true benefit to communities, that it needs to be conducted for a purpose and to have social applications. A significant component of the University’s research strength is the
flexible nature of the structures around research institutes, centres and groups which lend themselves to interdisciplinary research projects.

The University’s areas of national leadership will provide a clear direction for the University’s research direction over the period of this Investment Plan, and will guide the University’s investment in research capacity over the Plan period.

The University is well regarded for its research in the Arts and Social Sciences with particularly strong research being undertaken in psychology, transport research and population and health. The University has contributed significantly in constructing a methodology in psychology that is sensitive to the unique socio-historical situation of Māori within Aotearoa and in the globalised world at large, and has a long history of delivering research on subjects related to drivers and road safety. Additionally interdisciplinary research in a broad range of areas such as immigration, the labour market, healthcare, local government planning, Māori and iwi development, housing and education, and welfare and public policy has led to the University being seen as one of the leading research centres in population studies in the southern hemisphere. Over the period of this Investment Plan the University will be investing in the development and enhancement of a cross-disciplinary and collaborative research programme across transport, health-related studies, the Crime Science Research Institute, strategic studies, history and the environment. The University will also be building on the work done in the National Institute for Demographic and Economic Analysis with increased investment in the area of population health, which will focus on not just the overall health of the population, but on the distribution of health within communities. A key contribution from the Social Sciences will be its role in translating research into practice.

Computing and Mathematical Sciences makes a significant international contribution in the areas of cyber security, digital libraries, human-computer interaction and machine learning. Over the period of this Investment Plan the University will be investing in these areas and building capacity in the area of crime science – working collaboratively with NZ Police and other agencies to develop practical solutions for identifying crime patterns in New Zealand and using these patterns to effectively allocate policing resources.

The University is nationally and internationally recognised for its research in Education, from indigenous education, early-years research, sport and human performance, through the development of new educational delivery technologies including applications to help primary students engage with mathematics, to general and specialist educational research; the University is also firmly committed to research about the policy/practice nexus. Through the Institute of Professional Learning the University shares the outcomes of its research with the teachers and helps leads professional learning and development from early childhood education, through the compulsory education sector and into the tertiary level sector. Over the period of this Investment Plan the University will be investing in the expansion and development of a range of areas with key investments in the area of sport and human performance.

The University has a range of research strengths in Engineering, ranging from materials research, electronics, mechanical engineering, through cortical modelling and medical physics to energy efficiency and natural product processing. Over the period of this Investment Plan the University will be investing in research capacity in the areas of civil and environmental engineering as well as extending its work in titanium and bio-composites research.

While the majority of New Zealand law schools have been focussed on the delivery of professional qualifications in the field of Law, the University of Waikato has been developing its capacity in legal research with demonstrated excellence in the areas of indigenous governance, environmental law and cyber law. The University’s legal research has focussed on issues concerning Māori and indigenous peoples’ governance, rights and responsibilities. In addition, the area of cyber law has grown in significance rapidly over the recent years with growth in international trade and rapid advances in digital technology bringing Intellectual Property issues into the mainstream – a key focus has been on questioning current policies and their impact on innovation, together with investigating how new technologies interface with the law and the growth in cybercrime. Over the period of this Investment Plan the University will be investing in enhancing already existing capability in these areas.
The University holds a number of high-profile research contracts within Management and is exceptionally well regarded for its research in the area of Economics. Specific research projects in the areas of consumer-goods pricing driving demand, the design of household surveys effecting responses and infrastructure design affecting community participation are at the forefront of Economic research in New Zealand and seek to provide real solutions with appropriate applications. Research in the area of Management Communication is also highly regarded, with current research themes including sustainability in corporate and community relationships, public relation, health communication and leadership. Over the period of this Investment Plan the University will be seeking to invest in research capacity in the areas of Economics and Management Communication – areas where the University has already demonstrated national leadership.

While a relatively small area, Māori and Indigenous Studies is a significant contributor to the interdisciplinary research being undertaken at Waikato. Staff are nationally recognised for their expertise in Mātauranga Māori, along with demonstrated expertise in indigenous studies, Te Reo and Tikanga, Māori astronomy and Māori translation. In addition to their own research, staff are often invited to contribute to research projects being undertaken across the University. Over the period of this Investment Plan the University will invest in areas of demonstrated expertise within Māori and Indigenous Studies and will bolster the work being undertaken in the Mātauranga Māori space.

The University undertakes a significant quantum of research activity in the Sciences, with its highest profile the work being undertaken in the areas of freshwater research and management, coastal marine solutions, biodiversity restoration and urban ecology; all of these areas have had a noticeable, practical, impact on the wider region and nation over recent years. The University is also well-known for its Antarctic terrestrial biological research. While a more recent area of research, work in Agritech is of significant importance and contributes to the University’s strong interdisciplinary research platforms across important land-based fields, including ecosystems, agri-systems, industrial processes, planning and regulatory process, all of which contribute to New Zealand’s reputation as a leader in the land-based industry sector. Over the period of this Investment Plan the University will continue to invest in developing capability in these areas as well as supporting staff in other areas within the Sciences to contribute to the University’s overall goal for research excellence.

The University of Waikato has long-established relationships with a number of Crown Research Institutes (CRIs) and uses these relationships to advance research across a number of fronts, drawing on expertise from both the University and individual CRIs. The University’s engagements with CRIs also includes joint supervision of research Masters and Doctoral students, student work placements and supervised research projects undertaken by students of the University. Examples of projects undertaken with just one CRI, the National Institute of Water and Atmospheric Research (NIWA), include research involving pest fish control, water quality initiatives and coastal science.

An outcome of the University’s research strategy over the period of this Investment Plan will be improvements in staff achievement in the forthcoming PBRF round. In support of this outcome, the University has undertaken an internal formative research exercise to measure staff preparedness for the round and to estimate likely performance. On the basis of this exercise, the University has developed clear performance expectations of different categories of academic staff, put in place support mechanisms for staff who have not achieved expected outcomes, developed a contestable fund focussed on providing financial support for the completion of research outputs and projects that will contribute to PBRF results, and medium strategic investment fund grants which take a longer-term view and provide funding to complete projects and research to allow publications to be completed in time for the PBRF census date.

Over the period of this Investment Plan the University will be continuing to focus on the reorganisation of its Research and Enterprise Office. The full amalgamation of WaikatoLink back into the University was always planned to take some time as legacy issues needed to be dealt with and a phased transition made from the University’s previous approach to investing in commercialisation of IP; however, significant changes have been made to date and staff are already experiencing a much more integrated approach to research support through the Research and Enterprise Office with end-to-end advice and support provided on the development of research proposals, management of research contracts and deliverables, identification of
potential commercialisation opportunities and support for commercialisation of IP. Over the period of this Plan the University will seek to further enhance the seamlessness of its research and enterprise activities in support of staff.

As noted in the Performance Against the Previous Investment Plan section of this document, the University has experienced a number of recent successes in terms of the sale of intellectual property and spin-off companies. The University will continue to seek opportunities to generate income from the sale of intellectual property over the period of this Investment Plan and will re-invest revenue generated from this income source.

In 2015 the University launched the Innovation Station programme in partnership with the Waikato Students’ Union. The Innovation Station is the University’s student hub of creativity and entrepreneurship, and students over a wide range of subject areas undertake a 10 week programme over the November to February summer period during which they develop their own project or idea with the help of an expert start-up coach. At the end of the 10-week programme students pitch their ideas to a judging panel. Over the period of this Investment Plan the University will be continuing to support the Innovation Station programme and encouraging increased numbers of students to gain practical entrepreneurial and commercialisation experience as part of their studies.

A key change over the period of the previous Investment Plan was the change in approach to investment in commercialisation. Instead of investing in start-ups and funding spin-off companies until they can be on sold, through its IP and Investment Committee the University is accessing MBIE Pre-Seed Accelerator funding and seeking MBIE Smart Ideas and industry funding for ideas that have potential commercial applications. The Committee is carefully managing University investment in IP to ensure that only those projects with potential commercial applications are funded.

The University has a number of established, externally funded, Chairs. These currently include the Bay of Plenty Regional Council Chair in Lakes Management and Restoration, the Bay of Plenty Regional Council Chair in Coastal Science, the Ministry of Environment Chair in Environmental Economics, and the Gallagher Chair of Engineering. Over the period of this Investment Plan the University will be working closely with local government and business with a view to increasing its number of funded Chairs.

As noted above, the University will be investing in its areas of national leadership which will include investment in research and research capability. The University will be taking a more targeted approach to its investment which will be more strongly directed towards areas of distinctive contribution and national leadership. The development of any new Research Centres or Institutes over this Investment Plan period will be dependent on new opportunities and needs emerging from the University’s areas of national leadership. To this end, over the period of this Investment Plan the University will be establishing Te Waiora Joint Institute for Freshwater Management in association with NIWA. The Institute will be a world-leading centre for interdisciplinary freshwater research and teaching that builds capability and capacity across the sciences, engineering, management, law, economics, policy, mātauranga Māori, and education in order to deliver greater economic, social, cultural and environmental benefits from and for freshwater resources. The Institute will build on the University’s highly successful Outcome Based Investment (2005-2015).

One example of the University’s strong international linkages is its work to advance a New Zealand-China water research centre which will bring focus, strategic direction and collaborative planning to individual and institution-based New Zealand water research projects that currently exist or will be set up in future with Chinese researchers. The research centre will provide the essential connectivity, networks and project inventories to maximise outcomes of research with Chinese collaborators and address water management issues in both countries. It will provide opportunities for targeted research that transcends disciplinary and cultural boundaries, and aligns with the challenges of improving water management in New Zealand and China. The project will build on the University strength in freshwater management and research and builds on the OBI funded work the University has undertaken since 2005.
Over the period of this Investment Plan the University will be investing in increased research activity in China; this research activity will be undertaken in association with Chinese institutions through joint institutes.

Over the period of this Investment Plan the University intends to increase its research and development (R&D) revenue with the exception of professional development contract income; the University is particularly targeting increases in revenue from non-Government sources over the period 2017-2019. It is important to note, however, that professional development contract income generated through the Institute of Professional Learning will be uncertain over the next few years as a consequence of changes to the Ministry of Education’s approach to Professional Learning and Development. The Institute of Professional Learning has been a significant contributor to the University’s overall R&D result over the last few years and any decline in income is expected to result in an overall reduction in the University’s R&D revenue over the period 2017-2019.

Mātauranga Māori

The University of Waikato has long been regarded for its work on mātauranga Māori. Rather than being the sole responsibility of Māori academics, the concept of mātauranga Māori has become a core part of much of the University’s teaching and research. Te Rōpū Manukura provides challenges that have strengthened iwi engagement across many aspects of the University’s activities, and by reinforcing research and education connections across iwi organisations and communities and the work taking place across the University, mātauranga Māori is an integrated component of much of the University’s activities.

The University’s leadership and expertise in the area of mātauranga Māori is evidenced by the fact that the University of Waikato is frequently asked to contribute its knowledge of mātauranga Māori to research projects being undertaken by external groups, including CRIs and other universities.

The University’s vision is to be seen by iwi and communities as a trusted and effective partner in advancing research and scholarship relating to Māori development and mātauranga Māori, and this vision underpins a number of work-streams and activities of the University over the period of this Investment Plan.

Goal 3 of the University’s Māori Advancement Plan proposes that the University will ‘integrate kaupapa, tikanga, reo and mātauranga Māori as natural elements of the Waikato experience’, to this end the University has continued to focus on supporting mātauranga Māori and building Māori research capacity and this will continue to be a focus over the period of this Investment Plan.

The majority of the University’s Māori academic staff and Māori PhD and research Masters’ students are engaged in some aspect of mātauranga Māori research in their specialist area. These areas extend across a very-wide range of the University’s provision and include areas such as language revitalisation, science and the environment, education, Māori art forms and traditions, heritage preservation, psychology, law, navigation, astronomy, oral histories, and Māori knowledge systems.

Curriculum Enhancement Programme

Over the period of this Investment Plan the University of Waikato will continue with its Curriculum Enhancement Programme and the implementation of its agreed Curriculum Design Framework.

The Curriculum Enhancement Programme is intended to ensure that the University has a future-focused curriculum that reflects international trends, is research-led and is flexible enough to respond to changing market demands.

The Curriculum Enhancement Programme involves a fundamental review and redesign of all the University’s offerings and will include the reconsideration and redevelopment of all undergraduate papers.
Such a comprehensive stocktake and reworking of the University’s offerings is unlikely to be undertaken again within the next 15 years.

The Curriculum Design Framework is made up of three constitutive parts:
1. The Curriculum Design Principles
2. The Overarching University of Waikato Graduate Attributes
3. The University of Waikato Degree Architecture.

The roll-out of each of these components will have an impact on the University’s offerings and this Investment Plan.

The Curriculum Design Principles provide a conceptual scaffold for the provision of relevant curricula and a world-class university experience. They provide a framework that will ensure all students have the opportunity to acquire the overarching graduate attributes of a Waikato qualification.

These principles are set out below:

Curriculum Development
The University offers and delivers a curriculum that is: future-oriented, research-led, socially and culturally responsive, with an embedded global perspective, dynamic and responsive to changing student and societal needs, and adequately prepares students for their working lives, to participate fully in their communities both locally and globally, and to become lifelong learners.

Teaching
The University provides and supports quality teaching, including flexible delivery modes that are responsive to student and societal needs.

Students and their experiences
From pre-enrolment through programmes of study and into work or further study, the University of Waikato provides a world-class student experience for on-campus and online students that is distinctive to the institution.

Strengthening pathways to work and life-long learning
Waikato students are provided with clear and purposeful pathways from undergraduate to postgraduate studies – within the University and through joint national and international provision.

Workforce development: investing in and building talent
The University will nurture all staff, especially new and emerging academics, providing them with the opportunities to develop their expertise in research, teaching and leadership. It will adopt best employment practices to attract, retain and support excellent staff. It will provide professional opportunities for leadership development and will implement effective succession planning.

Through the Curriculum Design Framework, all University of Waikato undergraduate qualifications will be redesigned to enhance the following graduate attributes:
1. Application of discipline- (and profession-) specific knowledge
2. Application of critical thinking in systematic, innovative and creative ways
3. Effective communication and collaboration
4. Competence in culturally diverse local and global contexts
5. Professional and personal integrity

To ensure that opportunities for acquiring the abilities, knowledge and understanding that comprise the University’s overarching graduate attributes are included in every student’s programme of study, three elements have been identified that will need either to be explicitly integrated into papers within a qualification or offered as stand-alone papers in order to meet a University-wide requirements that the three elements by included within all undergraduate degrees.
These elements are as follows:

**Element One: Disciplinary Foundations (100 level) Graduate attributes 1, 2, 3 and 5**
Inclusion of this element is intended to ensure that students have opportunities to develop an understanding of the nature and place of their discipline(s) within the context of the broader area of their qualification and to provide opportunities for the successful acquisition of academic competencies and literacies.

These papers will be at 100 level and will be designed to support students’ successful transition into university study, while also providing them with the foundational concepts and methods required if they are to successfully complete their chosen qualification. These papers will include:
- fundamental undergraduate-level academic skills (including, but not limited to: information gathering and analysis, communication in a variety of relevant formats, digital literacy, and collaborative work).
- an introduction to the nature of the discipline(s) and its fundamental concepts and methods.
- an introduction to academic integrity and to professional ethics.

**Element Two: Cultural Perspectives (100, 200 or 300 level) Graduate attributes: 2, 3 and 4**
The concepts of this element are designed to ensure that students have the opportunity to gain experience in culturally and linguistically diverse contexts both locally and globally.

Students will experience and develop these capabilities in a context-dependent way. Opportunities to fulfil this requirement might include: purpose-developed papers; international student exchanges and study abroad; study tours; te reo Māori and tikanga papers; international language and culture papers; and/or the design and delivery of a paper in such a way that its content, tasks and assessments are properly aligned with the rationale and learning objectives that drive this requirement.

**Element Three: Industry, Employer and Community Engagement (200 or 300 level) Graduate attributes 1, 2, 3 and 5**
The inclusion of this element is intended to ensure students have the opportunity to apply their knowledge and skills in community-based and work settings, and that they are well prepared for their transition to future study and work.

The majority of students in comprehensive undergraduate degrees will fulfil this requirement with a work placement or internship in either industry or in community organisations. Other opportunities to fulfil this requirement might include: summer research scholarships; papers built around a community-engagement project, and/or the design and delivery of a paper in such a way that its content, tasks and assessments are properly aligned with the rationale and learning objectives that drive this requirement.

Many students in specialised degrees already undertake a work placement as part of the requirements for their programme.

The University will be extending its stakeholder network as part of this development and reaching out to a wide range of employers across the Waikato and Bay of Plenty region. Feedback from employers involved in the work-integrated learning component will be fed through the University’s established industry advisory boards and a process of continuous enhancement will be implemented.

Over the period of this Investment Plan the University will also be moving from 20-point papers at 200, 300 and 400 level to 15 point papers at these levels. While this will mean that students undertake a greater number of papers towards their undergraduate qualifications, it will bring Waikato’s paper structure into line with most other tertiary providers in New Zealand; as a consequence students will be able to move more seamlessly between providers enhancing the network of provision.
Improving Adult Literacy and Numeracy

The National Centre of Literacy and Numeracy for Adults is a specialist centre of expertise in literacy and numeracy education for adults and young people, based at the University of Waikato. Working in partnership with Te Whare Wānanga o Awanuiārangi, the National Centre undertakes research-informed professional development, research and critical engagements with policy and practice at a national and international level, building capability to meet the country’s audit literacy and numeracy challenge, with a particular focus on the Tertiary Education Strategy’s Priority Groups: Māori, Pasifika and youth.

The National Centre of Literacy and Numeracy for Adults is a key part of the national infrastructure to strengthen the literacy and numeracy skills of adult learners in New Zealand.

The Centre, established in 2009 through a contract with the Tertiary Education Commission and hosted by the University of Waikato, focuses on literacy and numeracy for adults as a large-scale issue of national strategic importance. It facilitates collaborations with key stakeholders nationally and internationally bringing together literacy and numeracy expertise in a range of tertiary settings and the workforce.

The Centre has an enduring commitment to our vision of enhancing the lives of New Zealanders through improved literacy and numeracy outcomes for adults.

Its strategic goals are to provide and support:

- High quality professional learning opportunities to develop the capacity of organisations, educators and managers
- Internationally referenced and locally relevant qualifications
- A relevant research programme
- Policy advice to agencies nationally and internationally
- High quality learning resources
- Strong partnerships

The Centre promotes an embedded approach to literacy and numeracy which equips educators to identify literacy and numeracy needs and demands and support adult learning in a range of contexts. It provides professional learning opportunities in the form of workshops, modules, symposia and a tailored advisory service for organisations, educators and managers.

NCLANA supports existing and developing activity across New Zealand, especially with the Tertiary Education priority groups of Māori, Pasifika and youth.

A key future challenge for NCLANA is to sustain and build on its work in partnership with the sector to create a lasting benefit to all the people of New Zealand. To this end the Centre will continue with its programme of symposium and workshops over the period of this Investment Plan together with enhancing its portfolio of resources for those working in the area of adult literacy and numeracy.

Additionally, the staff of the National Centre of Literacy and Numeracy for Adults are involved in research-led teaching across a range of programmes at the University, including undergraduate and postgraduate teacher education, a range of Masters programmes in Education and professional development opportunities for teachers.

Strengthening Learner Pathways

The University of Waikato has strong and established links with secondary schools from across both its region and across New Zealand more widely. These relationships include a liaison programme including regular visits to more than 200 mainly North Island secondary schools, and more recently, expansion of liaison to particular regions in the South Island.
The University is a member of CATE (Careers and Transition Education Association) and keeps careers advisors up to date with initiatives at the University, as well as holding a number of update days for careers advisors on campus and in the regions.

The University operates a Student Ambassador programme with current students who are in their second year or above visiting schools with advisors to talk about their experiences at university and advise secondary students about applying to Waikato. As part of the Student Ambassador programme, students receive thorough training and gain valuable skills and experience to add to their CV.

In support of student recruitment, the University provides subject specific sessions, and is increasingly engaging with younger students to assist their subject choices at secondary school and to build understanding of pathways into particular degree programmes and to university study more generally. Regional sessions are also held for prospective students and their parents; these sessions are particularly popular with particular cohorts of students and provide assurance to families that the University will support their children in their journey to university.

The University has expanded the support that it provides to Māori and Pacific prospective students, particularly through increased attendance at community events or events run by whanau and church communities. The University ran Hikoi for the first time in 2016 in schools across the Waikato and Bay of Plenty regions for Māori students, and over the period of this Investment Plan will look to develop this and will look at engaging with Pacific communities in similar ways.

The University has for many years included a particularly full set of programmes encouraging and promoting the University’s range of degree programmes, a number of which focus on science and engineering, and include:

- on-campus days built around the science curriculum for year 12 and 13 students (and their teachers) in biology, chemistry and physics
- scholarship preparation days for very able students in the sciences, and support for teachers in preparing students for scholarship examinations as well as international Olympiads
- the hosting of visits by individual schools and provision of speakers in specific subjects
- the design and provision of a number of on-line resources (in the form of websites and blogs) for use by students and teachers across the main science subjects
- engineering and science open days to give secondary students the opportunity to experience interactive activities so that they can understand the different programmes and majors available at Waikato
- summer science campus for Year 12 students
- regional information evenings
- whānau information evenings
- Year 10 Whānau Days
- Annual Open Days
- Experience Waikato Days.

The University has a substantial and long-standing professional learning and development programme delivered under contract by the Ministry of Education. Services under that and other similar contracts all contribute to the enhancement of learner pathways into tertiary study. The University’s Institute for Educational Professional Learning and Development and Te Toi Tupu, a consortium to which the University of Waikato belongs, have together become the major national provider of educational professional learning and development in New Zealand.

The University also contributes to the Government’s tertiary participation and performance objectives through its role in teacher education and educational leadership programmes and a wide range of relevant research projects.

The University has a range of long-standing pathways for students from other tertiary sub-sectors and from a wide range of providers. These pathways often involve guaranteed admission to particular degree programmes, often including credit for previous study. Specific pathways are offered from national and
institute-specific diploma programmes delivered through other providers across the region. The University also hosts a website that allows students to explore possible credit from previous study at other tertiary education providers http://www.waikato.ac.nz/study/transfer-credit.shtml.

In 2016 the University of Waikato signed a Memorandum of Understanding with the Napier City Council. While the foundation of the MOU was on developing research projects in the Hawke’s Bay area, the relationship was also planned to develop pathways to university study for students undertaking tertiary study in the Hawke’s Bay region. It is anticipated that these pathways will be established over the period of this Investment Plan.

The University’s Certificate of University Preparation, which is targeted at students who have narrowly failed to achieve University Entrance or who need a programme to support their transition to university, operates as a pathway to degree-level study at the University. It has been an important pathway for students since its introduction in 2000 and continues to support many first-in-family students into degree-level study. In 2015 the University trialled a new ‘academy’ approach to the delivery of its STEM CUP programme; the pass rates of students who had undertaken the CUP through the academy were noticeably higher than those students who had undertaken the CUP through Wintec. From 2017 the University will be taking provision of the CUP programme back from Wintec – as a consequence of changes required to foundation programmes offered by ITPs to address the Targeted Review of Qualifications (TROQ) of foundation programmes – and will be introducing new academies (Social Sciences, Management and STEM) along with other revisions to the programme with a view to increasing pass and completion rates and building on the already strong progression rates from the programme. A core element of the CUP programme is the infrastructure that the University places around its students; the ability for students to succeed is not limited to their academic preparedness, but extends to familiarity with environments, understanding of expectations, and issues of access and support. The CUP programme introduces students to these other aspects of university-life alongside providing a solid academic foundation for their future study.

In 2015 the University also trialled a split-CUP programme, particularly targeted at students who had been particularly disadvantaged by the change to University Entrance and which was offered to students who would have gained entry under the previous standard and demonstrated particular strength in some subjects; these students were given the opportunity to undertake two degree-level papers and two sub-degree papers to support areas where the students needed support. The University will consider offering the split-CUP programme to high-achieving students who have not achieved University Entrance in the future.

The University is taking the opportunity to reimagine its STAR programme as a pathway for high-achieving secondary school students. The University will expand the number of papers available through STAR and introduce a scholarship programme targeted at those students who have undertaken STAR and subsequently enrol in a degree programme at Waikato.

Over the period of this Investment Plan the University is planning to expand its Ara ki Angitū: Pathways to Excellence programme to the Ngaruawahia and Huntly in the north and Te Aroha and Paeroa in the east. The Ara ki Angitū programme is designed to provide a pathway to university study by alleviating the barriers of affordability and transport, and installing quality support to guide students through the transition to university. It is on the basis of the success of the programme in the areas of Putaruru and Tokoroa (to the south) and Otorohanga and Te Kuiti (to the west) that the programme will be expanded to new regions during the period of this Plan. Early indications of student demand for 2017 and 2018 suggest that the numbers of students enrolled through Ara ki Angitū are likely to increase significantly over the period of this Investment Plan.
Supporting Student Achievement

The University of Waikato has a high proportion of students who are ‘first in family’ university students, along with a significant number of students who do not enter through traditional pathways (i.e. are not school leavers). Also of relevance is the fact that the majority of the University’s bachelor’s degrees require University Entrance for admission, unlike a number of other universities who impose higher entry standards for the majority of their qualifications.

It is essential, therefore, that the University has appropriate programmes and resources in place to support all the students that it admits. It is evident, given that the University’s overall performance in the TEC Educational Performance Indicators is on par with other New Zealand universities, that the differences in preparedness for university and levels of previous achievement of its students are offset by the work that the University does in terms of supporting students to achieve at University.

In order to further enhance student achievement, the University of Waikato is planning a number of changes over the period of this Investment Plan.

For 2016 the University introduced a redesigned A semester Orientation programme which featured a comprehensive series of subject-oriented and general University lectures allowing students to be well-grounded in the expectations for their subject academically, as well as being inducted into the University’s various systems and protocols, before lectures began in week one. Specific sessions were run for Māori and Pacific students as part of the Orientation programme and these provided an introduction to the range of targeted student support and mentoring programmes available. Over the period of this Investment Plan further changes will be made to further the academic Orientation programme held during the University’s social and academic orientation programme for new and returning students. The University will also ensure all first and second year papers include early assessment with closer monitoring of student performance in these assessments and referral to student support services where appropriate; the University’s student and learning support services will be co-located in one area; a review will be undertaken of central and Faculty student support services to ensure effective use of resources and best return on investment; and the University’s business analysis function will be enhanced to ensure that business intelligence, while being used to identify potentially ‘at risk’ students, is not used to pigeon-hole students and will enable recognition of the individual and their abilities and needs.

Māori Students

The University has the highest proportion of Māori students of any New Zealand university with approximately 21% of SAC funded students identifying as Māori. Over the period of this Investment Plan the University will not necessarily be seeking to increase the proportion of its SAC funded students who identify as Māori, but will seek to at least maintain the current proportion.

While the Cycle 5 Academic Audit report noted that “the University provides excellent support for Māori and Pacific students” the University recognises that it has not achieved the improvements in Māori student achievement that it had targeted.

Over the period of this plan the University will implement changes to its Māori student mentoring programme that were piloted in 2016. These changes include the appointment of Māori academic champions in each Faculty to support mentoring programmes, consistent position descriptions across all Māori student mentors, more centralised support for the mentoring function including opportunities for staff across the Faculties to get together and share experiences and best practices, the establishment of a support programme for Māori students undertaking Honours and Masters programmes, and more proactive monitoring and follow-up of students.

The changed student mentoring programme is one component of a refreshed approach to Māori student support that will be in place from 2017. The revitalised programme, led by the Pro Vice-Chancellor Māori, focusses on effective early intervention and relationship development with first-year students. Prior to the submission of the first assignment in their first course, first-year Māori students will be contacted by staff in
their Faculty’s Māori student mentoring service and advised of the range of support options that are available. This early intervention approach is expected to result in improved pass rates – both as a consequence of more proactive student withdrawals during the change of enrolment period and more effective engagement by students who might otherwise have failed to complete papers.

In 2016 the five papers with the lowest pass rates for Māori students were identified and reported to the Deans in a similar approach to that taken with papers identified as low performing provision. Analysis was undertaken over a five year period and Deans and their staff have been asked to identify and address potential causes for the poor Māori student pass rates in the papers. Over the period of this Investment Plan the University will be making more effective use of business analytics to identify issues and target responses.

Through the 2016 pilot programme, and alongside the establishment of Māori academic champions in each of the Faculties, several Faculties have sought to establish committees focussing on Māori Advancement. The University is fully supportive of these committees and the initiatives coming out of them and will look to duplicate these models in each of the Faculties over the period of this Investment Plan.

The University is looking to use new business analysis tools to target student support services for Māori students; early analysis of pass-rates of students from different iwi have highlighted particular areas for focus and over the period of this Investment Plan strategies will be enhanced to provide targeted support for students identified as being at higher risk.

**Pacific Students**
The University has steadily increased its proportion of Pacific students. In 2015, 6.7% of its Ministry-Funded students identified as Pacific, a figure considerably higher than the proportion of the Waikato/Bay of Plenty regional population who identified as Pacific in the 2013 Census (3.5%). Over the period of this Investment Plan the University will not necessarily be seeking to increase the proportion of its SAC funded students who identify as Pacific, but will seek to at least maintain the current proportion.

The University has experienced significant growth in the proportion of its Pacific students who come from outside the Waikato/Bay of Plenty region. The proportion of Pacific students coming from the University’s inner periphery (which includes South Auckland) has increased from 12.8% in 2010 to 22.7% in 2015; this growth reflects the University’s increased recruitment activity in the South Auckland region over the past few years.

As noted above, the Cycle 5 Academic Audit report noted that “the University provides excellent support for Māori and Pacific students”; however, the University recognises that it has not achieved the improvements in Pacific student achievement that it had targeted.

A research report produced by Ako Aotearoa (Educational practices that benefit Pacific learners in tertiary education) highlighted the fact that physical spaces for Pacific students is a factor that enhances success for Pacific students; the development of a safe, culturally strengthening place supports and nurtures many facets of Pacific student identity and provides a scaffold for student support activities. To this end and over the period of this Plan the University will develop a Pacific Space that provides students with space to learn together and engage with one another – this space is likely to be located in the Student Centre. It will aim to increase engagement with the services offered by the Pacific Student Support Coordinator. The University will also increase Pacific student monitoring in Faculties, particularly in papers that have proven to have poor completion rates for Pacific students; review Equity allocation and expenditure to ensure the best return on resources; develop a Pacific Postgraduate Research Network linked to the Pacific Postgraduate Talanoa network; development of a new Pacific major between the Faculty of Arts and Social Sciences and newly named Faculty of Māori and Indigenous Studies, along with building academic capacity in this area.
Internationalisation

Internationalisation and the activities that underpin it stretch across the main functions of the University from teaching and learning to research. It’s an area of strategic importance providing academic, reputational and financial benefits. For Waikato internationalisation is defined by its commitment to:

- Growing strategic international partnerships to maximise our potential for research collaboration and joint educational programmes
- Promoting our international profile by contributing to issues of global importance and celebrating our teaching and research programmes
- Accepting top quality students from a diverse range of backgrounds
- Embedding an international perspective in all academic curricula, promoting cross-cultural competence and creating a multi-cultural campus environment
- Offering excellent support to all students, including international students.

Over the period of this Investment Plan the University will seek to address each of the goals above. Internationalisation as it relates to research, curriculum and the student experience are covered in the relevant sections of this Plan. This section sets out the University’s priorities for growth in international student numbers (including transnational education), growth in outwards mobility and the University’s plans in the area of strategic international partnerships.

International Student Recruitment

Growing the number of international students studying through Waikato is a key priority for the University. As well as adding to the cultural diversity of the University, international students provide a significant and additional income stream, which contributes to the financial stability of the University.

Over the period of this Investment Plan the University will specifically focus on:

- Continuing to refine its international recruitment strategies which are targeted and underpinned by sound market intelligence
- Recruiting students from a more diverse range of nationalities (currently 60% China), channels and levels of study to reduce reliance on one market or programme
- Providing programmes that are attractive to international students and reflect market demand
- Ensuring the University’s processes are responsive and aligned to the international student decision-making process by undertaking a review of the University’s enquiry management and admissions procedures
- Ensuring key aspects of the University’s offerings are competitive, attractive and reflect student requirements including, but not limited to, price, entry requirements, attractive course content, positive and high-quality student experiences (study, social, living, working), innovative teaching practices, clear graduate outcomes that are linked to employment and networks which continue to enhance the student experience post-graduation.
- Refreshing its network of international agents to ensure that it has active agents who are well-managed and supported
- Increasing the number of students coming through onshore and offshore pathway programmes including guaranteed credit agreements, dual degrees and offshore delivery.

The University has five main priority regions: East Asia (China, Taiwan, South Korea), South Asia (India, Nepal, Sri Lanka, Bangladesh), South East Asia (Vietnam, Malaysia, Thailand, Singapore, Indonesia), the Middle East (Saudi Arabia, Oman, Iran, Egypt) and Europe/USA (Germany, Norway, USA, Canada) – Europe/USA is mainly a source of short-term study abroad students. Over the course of this Investment Plan the University will continue to focus on these markets but will aim to produce more targeted country plans. The University will also explore new markets in South East Asia including Myanmar and the Philippines, as well as exploring opportunities in Africa (Nigeria, Ghana, and Kenya).

Transnational Education

Increasing the channels from which the University recruits international students is critical to its growth strategy. Currently the University has two very successful 2+2 programmes in China (with Shanghai
International Studies University and Zhejiang University City College). Both of these partnerships have significantly contributed to the University’s international student enrolments over recent years.

Over the period of this Investment Plan the University will specifically focus on:

- Exploring and developing partnership opportunities in other markets including Vietnam, India, Malaysia and Sri Lanka
- Diversifying models of delivery and types of programmes by expanding the number of joint Masters and PhD programmes it offers with overseas universities
- Extending the current pathway programme at Shanghai International Studies University to include Masters-level qualifications
- Expanding opportunities that involve a diverse range of Faculties

Current opportunities being explored include the development of a Masters of Education Management to be delivered in Vietnam, a 2+2 programme in Linguistics with a new Chinese partner, a 1+1 programme in the Masters of Law with Hanoi Law University, and a 2+2 joint undergraduate programme in computer science in Sri Lanka. It is anticipated that these new initiatives will be established over the period of this Investment Plan.

**Student Mobility**

The University is committed to increasing the number of opportunities for students to gain an overseas experience as part of their degree. There are clear benefits of providing students with an opportunity to experience a different culture, make new friends, develop language skills, grow self-confidence, gain new academic perspectives, establish international contacts and ultimately enhance their future employability.

Over the period of this Investment Plan the University of Waikato will specifically focus on:

- Reducing the costs to students who seek to undertake exchanges by introducing a specialised scholarship programme to support overseas study
- Increasing the number of exchange partners located in counties and cities that are attractive to Waikato students
- Ensuring that the redesigned undergraduate curriculum acknowledges an exchange experience as meeting the cultural perspectives required as part of all comprehensive undergraduate degrees from 2018
- Increasing the promotion of exchange opportunities on campus by holding regular events and information sessions to raise the profile of an exchange experience.

**Strategic Partnerships**

In line with its motto ‘Ko Te Tangata’ the University Waikato emphasises the ‘role of collegiality and the importance that we place on people’ in its commitment to partnerships. Being connected and fostering rich regional, national and international relationships is an intrinsic part of the University’s heritage and identity.

The University’s vision for international connectedness includes benchmarking itself against the best in the world and bringing the best from the international stage back to Waikato to benefit the region and nation. A clear, focussed approach to collaboration with global partners is essential to bringing a line of sight to this vision.

There are many ways the University of Waikato benefits from international partnerships, including:

- Improved reputation and ranking as a world-class, research-intensive, university
- Improved quality of research outputs
- Recruitment of high-quality students with the highest potential
- Opportunities for Waikato students to study overseas
- Access to external funding for research and collaborative transnational initiatives
- Access to ‘privileged’ information from partners to benchmark performance.
The University is committed to growing the number of strategic partnerships with high-quality institutions; such partnerships will be interdisciplinary in nature, involve more than one activity and ultimately raise the profile and reputation of Waikato.

Over the period of this Investment Plan the University of Waikato will specifically focus on:

- Conducting a review of existing university partnerships to ensure these are aligned to the needs of the University.
- Conducting a review of Faculty and individual-level partnerships to identify if there are any new partnerships worth exploring that can be built on existing links and relationships
- Exploring the opportunity to join a network of international universities, or consider creating a new network that brings together high-quality universities that are similar to Waikato – established in the 1960’s, relatively small and with a strong regional as well as national and international focus
- Building an infrastructure to support strategic partnership development which includes defined processes and procedures for identifying, establishing and maintaining partnerships.

**Bay of Plenty**

As noted by MBIE in its 2015 Regional Economic Activity Report “growth in the Bay of Plenty economy will require higher levels of formal qualifications and skills in the population”; the University of Waikato is well placed to address these needs and will continue its efforts over the period of this Investment Plan.

A key area of focus for the University over the period of this Investment Plan is the Tauranga CBD University Campus Project, with construction due to commence in 2017; the completed campus is scheduled to open in time for the 2020 academic year.

The University is committed to increasing research and innovation in the Bay of Plenty, and over the period of this Investment Plan will be seeking to increase the quantum of research undertaken in the Bay and increasing innovation within the region.

In preparation for the new campus opening, over the period of this Investment Plan the newly appointed Academic Director will be working with businesses, community and the University to determine how the University can best meet the changing needs of the region and deliver a very strong academic programme for 2020 and beyond which will act as a stronger draw card for Bay of Plenty school leavers, international students and professionals in the region who want to upskill. Underpinning the Tauranga academic programme will be a very strong interdisciplinary approach, a desire to offer programmes which differ somewhat from offerings at the Hamilton campus, and a strong work integration component in all undergraduate degrees.

Over the period of this Investment Plan the ICT Graduate School, a joint initiative with the University of Auckland, will be extended to the Bay of Plenty; work is currently underway to sign more Bay of Plenty businesses up to the Graduate School.

The University will utilise opportunities through the University of Waikato Adams Centre for High Performance and will look to develop new research programmes and postgraduate study opportunities in the area of high-performance sport in the Bay of Plenty. Over the period of this Investment Plan the University will also look to establish a more permanent University facility for the Centre for Marine Research to enable growth in marine research and activity in the Bay of Plenty.

The University of Waikato will be working closely with the newly merged Waiariki Bay of Plenty Polytechnic and is committed to satisfying the Minister’s expectation that the new institute would work closely with the University of Waikato. The University of Waikato, in conjunction with other institutions under the Bay of Plenty tertiary education partnership, will seek to deliver on the expectations for tertiary education in the Bay as set out in the Tertiary Intentions Strategy.
Description of Programmes and Activities

The University is planning significant change to its academic programmes over the period of this Investment Plan. In response to the Curriculum Enhancement Programme, the majority of Faculties are taking the opportunity to re-design their undergraduate subjects and qualifications. While the majority of the changes will take effect from 2018, changes to application and enrolment processing and review of admission criteria will lead to increases in student numbers from 2017.

Arts and Social Sciences

The Faculty of Arts and Social Sciences offers a wide range of qualifications from undergraduate certificates, diplomas and degrees through to postgraduate research, in subjects including the Social Sciences, the Humanities, and the Performing Arts. The Faculty makes a significant contribution to New Zealand communities through the creative and performing arts, language and literature, social planning and public policy, psychology, as well as social welfare and health in its broadest sense.

From 2017 two changes will be introduced to the University’s music programme that are expected to attract significant interest. While the current focus of the University’s music programme is on classical music, new papers in popular music are expected to broaden the appeal of the programme; in addition the University is introducing a new course in conjunction with the charitable trust Play it Strange, which will offer guidance and tutoring for secondary school students, allowing them to develop and refine their song-writing talents. The University will offer IT and social media support to course participants and will also offer scholarships in song-writing.

From 2018 the Faculty is planning on reducing its number of majors with a view to disestablishing and amalgamating some of the current options. Subject options will be more tightly aligned with areas of distinctiveness and national leadership and will be strongly linked to research excellence. Majors being discontinued include Ethics, Studies in Religion, Women’s and Gender Studies, Tourism Studies, and Public Policy. The Faculty is also discontinuing its Bachelor of Tourism qualification.

The Faculty is also looking at opportunities to enhance existing options through interdisciplinary work with other Faculties, particularly in the areas of environmental sciences, writing studies and management, and music and management.

Over the period of this Investment Plan, the Faculty will take over shared responsibility (with the Faculty of Māori and Indigenous Development) for academic leadership of the University’s Pacific academic programme and will work to establish a new Pacific Studies major. Both the Faculty of Arts and Social Sciences and the Faculty of Māori and Indigenous Development will work closely with other Faculty to ensure the delivery of Goal 4 of the University’s Pacific Plan to ‘provide teaching and research that deliver outcomes relevant to the needs and aspirations of Pacific peoples’.

Computing and Mathematical Sciences

The Faculty of Computing and Mathematical Sciences provides a stimulating and leading-edge environment of quality, relevant, teaching programmes and world-class research, producing graduates well matched for the challenges of the contemporary and future workplace. The Faculty has significant strengths in Computer Science, including newly emerging leadership in Cyber-Security, along with established leadership in Computer Graphic Design, Mathematics and Statistics. The newly-established ICT Graduate School, in conjunction with the University of Auckland, is already attracting strong enrolments and has developed close relationships with industry. The University will also extend the ICT Graduate School to the Bay of Plenty.

Expected growth in engineering enrolments in 2017 will extend to Software Engineering, continuing the pattern of strong Engineering growth the University has experienced over the past several years.
A new Masters of Security and Crime Sciences will be introduced in 2017, this professional 1.5 EFTS degree will allow participants to develop core competency in Security and Crime Science as well as relevant quantitative methods and research methodology. Students will choose electives from relevant subjects such as Computer Science, Statistics, Geographic Information Systems, Population Studies, Psychology, and Management.

From 2018 newly redesigned majors will be introduced including a new data analytics major in Statistics. In conjunction with Management, Law, and Engineering, the Faculty will introduce a new Masters of Engineering Management focussing on engineering project management and leadership – through computer science the Masters is likely to be highly attractive to software engineering project managers.

Through 2017 the University will move to address issues that have arisen with the pathway from the Diploma in Applied Computing due to changes to the Diploma as a consequence of the Targeted Review of Qualifications; continuation of the current arrangement would mean that students wishing to exit before completing the requirements of the Bachelor of Science (BSc) in Computer Science with a Specialisation in Applied Computing would no longer be able to graduate with the Diploma in Applied Computing.

**Education**

The Faculty of Education provides programmes in areas including Teacher Education, Sport Studies, Counselling, Human Development, Educational Leadership, and Education Studies. It distinguishes itself among other education schools through its tradition and reputation for innovation, leadership and research. A broad range of mixed media and fully online programmes and papers are offered across the teaching portfolio, as well as innovative Māori medium Teacher Education programmes.

The Faculty is heavily involved in sport research and development in the region and is a central player in the University’s established partnerships with High Performance Sport New Zealand and the Home of Cycling, as well as the new University of Waikato Adams Centre for High Performance in Tauranga.

As noted above, demand for teacher education graduates is expected to rise over the period of this Investment Plan as a significant cohort of current teachers move into retirement; in combination, streamlining of teacher education application and selection processes are expected to result in increased enrolments in the University’s initial teacher education programmes in 2017.

The University is also reviewing admission criteria for its Masters qualifications in Education to ensure better alignment with other universities. This, combined with a repackaging of Masters programmes to clarify programme options and simplify enrolment, changes to admission criteria are likely to result in increased enrolments.

In parallel with the University’s investment in the area of Health, Sport and Human Performance it is taking the opportunity to review and rebrand its Sport and Leisure Studies programme. Market research undertaken by the University has indicated that a programme branded more closely with Sport Sciences will prove more attractive to students and will result in an increase in enrolments.

In 2018 a new undergraduate Bachelor of Education Studies will be introduced allowing students who do not plan to teach to undertake a degree in Education; papers in Education Studies have proven popular with students undertaking qualifications in Arts and Social Sciences and a wider programme of study in Education Studies is also likely to prove popular.

The University is working with international partners with a view to develop offshore delivery options for its Masters of Education programmes in a number of overseas countries.

**Engineering**

The School of Engineering offers a range of programmes within its Bachelor of Engineering with Honours qualification that have been accredited by IPENZ making our New Zealand engineering qualifications professionally recognised in 13 countries and regions, including Australia, the UK and the USA.
Programmes offered include Chemical & Biological Engineering, Civil Engineering, Electronic Engineering, Environmental Engineering, Materials & Process Engineering, Mechanical Engineering, and Software Engineering. Masters and research postgraduate programmes provide extension opportunities for Engineering graduates.

The introduction of Civil Engineering and Environmental Engineering programmes in mid-2016 will lead to further increases in enrolment in engineering programmes over the period of this Investment Plan. Early indications of market demand suggest that the new Civil Engineering programme will prove very popular, although it may also attract some students who would otherwise have enrolled in Mechanical Engineering.

The University is currently developing a guaranteed credit pathway for students who have undertaken the National Diploma in Engineering at Waiairiki/Bay of Plenty Polytechnic; this pathway will provide opportunities for students in the Bay of Plenty to undertake Engineering at Waikato.

In conjunction with Management, Law and Computer Science in 2018 a new Masters of Engineering Management will be introduced, focussing on engineering project management and leadership – the programme is expected to be highly attractive to civil engineering contractors and software engineering project managers.

**Law**

Te Piringa – The Faculty of Law provides an innovative, student-focussed Bachelor of Laws (LLB), it remains a national leader in its commitment to promoting professional skill development as well as in attracting and retaining Māori law students and staff along with encouraging a bicultural and bi-juridical approach to legal education and research. Te Piringa’s commitment to teaching law in context is complemented by research in a broad array of human rights and social justice issues.

Increased profile and media attention around the new Law/Management building has resulted in increased enquiries and is expected to result in increased enrolments in Law over the next few years.

The Faculty’s response to the Curriculum Enhancement Programme will include consideration of the development of a three-year non-practice law degree that could also facilitate the development of a major and minor in law. The non-practice law degree could be attractive to international students who do not wish to practice law in New Zealand.

The Faculty has been working with partner institutions overseas over the past several years, particularly with respect to its Masters of Law qualification, with a view to increasing Full Cost International enrolments. Over the period of this Investment Plan, the Faculty expects to increase enrolments from partner institutions in Vietnam.

In conjunction with Management, Engineering, and Computer Science in 2018 a new Masters of Engineering Management will be introduced, focussing on engineering project management and leadership – the programme is expected to be highly attractive to civil engineering contractors and software engineering project managers. The Faculty will also be working to increase interdisciplinary options in the areas of cyber-law, e-commerce, sports law and health law.

**Management**

The Faculty of Management has distinguished itself among New Zealand business schools by the relevance and rigour of its education and research, and its belief that business and enterprise are most successful when they improve the community, societies and nations in which they operate. The Faculty of Management is a member of an elite group of business schools that have earned “Triple Crown” status – an international acknowledgement of excellence in business education. The Faculty is accredited by AACSB (the United States based Association to Advance Collegiate Schools of Business) - the world’s longest established assessor of business education, EQUIS (the EFMD Quality Improvement System) and AMBA (the Association of MBAs). Only one percent of the world’s business schools have met the strict standards of all three accreditation bodies.
A key focus for the Faculty in 2017 will be responding to a range of recommendations from a recent external review of the Faculty; the review providing a range of suggestions with respect to academic programmes and structures together with advice about changes to administrative structures.

The Faculty’s response to the review will also form its reaction to the Curriculum Enhancement Programme and will include the redesign of a number of qualifications and majors.

Over the period of this Investment Plan the Faculty will be discontinuing its Bachelor of Electronic Commerce and Bachelor of Entrepreneurship qualifications, and introducing a new three-year Bachelor of Business qualification to complement the existing Bachelor of Business Analysis, Bachelor of Communication Studies and Bachelor of Management Studies; these undergraduate qualifications will be more clearly differentiated with more discrete availability of majors. The Faculty anticipates increased demand as a consequence of these changes over the period of this Investment Plan.

Demand for the Faculty’s Masters of Business Management continues to increase and very strong demand is particularly evident from international students.

In conjunction with Law, Engineering and Computer Science in 2018 a new Masters of Engineering Management will be introduced, focussing on engineering project management and leadership – the programme is expected to be highly attractive to civil engineering contractors and software engineering project managers.

Māori and Indigenous Studies
The Faculty of Māori and Indigenous Studies offers programmes in Māori Language and Linguistics, Culture, Customs, Creative and Performing Arts, Media and Communication, Treaty of Waitangi, and Development Studies. It is renowned for its teaching of Te Reo Māori and Tikanga Māori, and its application in a wide number of settings throughout society.

Over the period of this Investment Plan the Faculty is taking a new approach to its academic programmes to increase their appeal. In recent years the Faculty has focussed primarily on advanced Māori language and tikanga, whereby it has been recognised that the Faculty has a key role to play in enculturating Waikato students into the language and tikanga of their community. It is anticipated that an introductory Māori culture paper will prove very attractive to study abroad students and will align strongly with the University’s ambitions to significantly increase its study abroad enrolments over the period of this Investment Plan.

In alignment with the changed name and focus of the Faculty, new graduate qualifications and programmes relating to indigenous studies will be introduced over the period of this Plan. The Faculty will also be discontinuing its Bachelor of Māori and Pacific Development qualification and re-designing its undergraduate Māori and Pacific Development and Tikanga Māori majors to fit under a new subject of Māori and Indigenous Studies – which, along with Te Reo Māori, will be available as a major subject under the Bachelor of Arts.

Research postgraduate EFTS in the Faculty remain limited by staff supervisory capacity. Over the period of this Investment Plan the Faculty will be looking to make staff appointments to boost supervisory capacity while supporting existing staff to complete their doctoral qualifications.

Science
The School of Science brings together the Biological Sciences, Chemistry and Earth Sciences into a cohesive cross-disciplinary unit providing greater opportunities in teaching and research. The Faculty is seeking to address the ‘Grand Challenges’ currently facing society that require research that transcends disciplinary boundaries, and recognises that increased flexibility in the ways we seek to understand the world and the ways we prepare students for the future provides significant benefits to the region, the nation and the world.
The School is home to the Bachelor of Science (BSc), an internationally recognised general science degree, and the Bachelor of Science (Technology) (BSc(Tech)) which gives students additional work experience alongside practicing scientists and technologies.

Over the period of this Investment Plan, growth in enrolments in Engineering qualifications will lead to increased EFTS in Science.

The School is working with Management to develop a new agricultural management qualification in response to demand from the agricultural sector.

In 2018 the School will be expanding its offerings in Tauranga and is planning to introduce its first laboratory course (CHEM100) and 2-3 other Tauranga-based papers. Like the Faculty of Computing and Mathematical Sciences, the Faculty will be working to redesign the guaranteed credit and entrance pathways from Waikato/Bay of Plenty Polytechnic; as a consequence of changes required to a range of Diploma programmes under the Targeted Review of Qualifications (TRoQ).

The School’s response to the Curriculum Enhancement Programme will include the discontinuation of undergraduate majors in Physics, Animal Behaviour, Biochemistry, Biotechnology and Biological Sciences; new majors in Ecology and Biodiversity and Molecular and Cellular Biology will be introduced to ensure that the University maintains a broad range of science subjects within its undergraduate qualifications.

Pathways
The Waikato Pathways College provides a range of learning opportunities that are research-informed, locally and internationally connected, dynamic and distinctive. The College offers university preparation courses, and foundation, bridging and English language programmes. They also support international study groups in a range of discipline areas and train teachers who want to teach English to adults.

Over the period of this Investment Plan the University will be bringing back provision of the Certificate of University Preparation programme from Wintec as a consequence of changes under the Targeted Review of Qualifications (TRoQ). As noted above, the University is taking the opportunity to redesign the delivery of the CUP programme by introducing a range of academies and reinforcing the bridging element of the programme to better prepare students for future success at university.

A core element of the CUP programme is the infrastructure that the University places around its students; the ability for students to succeed is not limited to their academic preparedness, it extends to familiarity with environments, understanding of expectations, and issues of access and support – the CUP programme introduces students to these other aspects of university-life alongside providing a solid academic foundation for their future study.

Analysis of Re-Enrolment
In response to a request from the Tertiary Education Commission, the University undertook an analysis of enrolments by students who had completed a qualification and subsequently re-enrolled (in 2012, 2013, 2014 or 2015) in a qualification at the same or lower level.

While it is evident that students are re-enrolling in qualifications at the same or lower level it is also evident that the majority of these enrolments are undertaking either expected pathways (60-70% of these type of enrolments) or an acceptable pathway (a further 10-15%); a comparatively small proportion of students (20-25%) are enrolling in qualifications that would not be considered to be a natural pathway.

Of the expected pathways a significant proportion of students (30-40%) enrol in the Graduate Diploma of Teaching which requires a bachelor’s degree or higher qualification for admission. A similar proportion of students enrol in an IPC (Individual Paper Credit) to take papers that may later be transferred to a formal
qualification. Another popular pathway for students is to complete a Graduate Diploma in a subject that they have not included in their undergraduate study to allow them to progress with the subject at postgraduate level or to employment.

Included in the acceptable pathways are students who undertake a general bachelor’s degree and then enrol in a professional bachelor degree – the most popular pathway of this type is into the Bachelor of Laws (approximately 27-30% of all acceptable re-enrolments choose this qualification) and the regulations for this qualification include the option for non-Law papers to be waived for students who have a previous bachelor’s degree. Other qualifications of this type included the Postgraduate Diploma in Clinical Psychology and the Postgraduate Diploma in the Practice of Psychology which are qualifications required for registration as a Psychology and are often completed after a Master’s programme, and the Masters of Teaching and Learning – which has proven popular with graduates who decide to move into teaching.

While the University offers advice to graduates about future study options, students have the right to exercise their free will and undertake the programme of study that is of interest to them; this group would be considered to have taken a study programme that would not be considered to be a natural pathway but all qualifications at the University provide graduates with opportunities for employment. As the employment market changes over time, and participants are increasingly likely to have several different careers within their working life, it is likely to become increasingly common for graduates to re-enrol in qualifications at the same level as a qualification that they may already hold to prepare them for a new career.

**Employment Outcomes of Tertiary Education**

In response to a request by the Tertiary Education Commission for institutions to comment on information collated by the Ministry of Education regarding Employment Outcomes of Tertiary Education, the University notes that the information provided is not sufficiently detailed to reflect any particular patterns that correlate with the experiences of its graduates. Degree-level qualifications at the University of Waikato allow students a greater degree of flexibility in the make-up of their programme of study than many other New Zealand universities and as a consequence, there is not the direct correlation between area of study and qualification that exists both in other parts of the sub-sector or tertiary education sector more widely.

As reported by Universities New Zealand, a university degree remains a strong determinant of economic success with university graduates earning about $1.6M over their working life than a non-graduate; this distinction is even more evident for higher level graduates with Masters and Honours graduates earning around 9% more than those with a bachelor’s degree (who earn about 40% more than those with only a high school qualification) and those with PhDs earning 22% more than Masters and Honours graduates.

While it has been argued that general degrees do not provide the same economic advantages as professional degrees, the skills that arts graduates acquire through their generalist study equip them with the skills that employers are increasingly looking for.

In order to ensure that all Waikato degree graduates are prepared for the workplace, from 2018 the University will be introducing compulsory work integrated learning as part of each undergraduate degree. Introduced through the Curriculum Enhancement Programme, work integrated learning will require students to undertake one of the following: summer research scholarships, internships, work placement; community based work (for example, for non-Government organisations) or community-engagement projects as part of their degree programme.

Over the period of this Investment Plan, and through the Curriculum Enhancement Programme, the University of Waikato will be discontinuing majors in the following areas: Ethics, Studies in Religion, Women’s and Gender Studies, Tourism Studies, Public Policy, Animal Behaviour, Biochemistry, Biotechnology, and Biological Sciences. Many of these subject areas have been identified in the MOE Employment Outcomes of Tertiary Education data as providing lower graduate employment outcomes.
Consideration will be given to any University of Waikato specific data provided by the Tertiary Education Commission and Ministry of Education over the period of this Investment Plan and decisions will be made about whether any changes need to be made to the University’s academic programmes as a result of this information.

**Waikato’s Contribution to TEC's Quick Wins**

**Maori in Northland**
The University has a longstanding relationship with Ngapuhi. A significant proportion of the University’s Māori students originate from Northland. The smaller, community feel of Waikato tends to prove a draw card for Northland students who are more familiar with life outside large cities.

The University has an established Northland Future Leaders Scholarship programme that awards, on the nomination of Northland school principals, fees or accommodation scholarships to Northland Year 13 students who show clear leadership potential. While not exclusively targeted at Māori students, a very high proportion of previous recipients have identified as Māori.

Over the period 2012-2015, between 6% and 9% of the University’s new school leaver population who identify as Māori came from secondary schools in Northland. This contributed to the significant proportion of Māori students who identify as belonging to Ngapuhi iwi.

Over the period of this Investment Plan the University will continue to offer the Northland Future Leaders Scholarship programme and will continue its recruitment activities in Northland as well as working with other tertiary providers in the region to ensure that appropriate pathways are in place for students wishing to undertake university study.

**Pacific in South Auckland**
The University has experienced significant growth in the proportion of its Pacific students who come from outside the Waikato/Bay of Plenty region. The proportion of Pacific students coming from the University’s inner periphery region (which includes South Auckland) has increased from 12.8% in 2010 to 22.7% in 2015; this growth reflects the University’s increased recruitment activity in the South Auckland region over the past few years.

The University has a broad student recruitment programme in South Auckland focussing on Pacific students. Over the past few years the University has enhanced its relationships with South Auckland secondary schools and has been involved in expos and careers evenings held by those schools. Additionally the University has had a presence at both the Pacifica Festival and the Pacifica by Nature Festival and has attended community and church careers and education expos.

The University recognises the role that community plays in the decision by Pasifika students in whether and where they undertake tertiary study. To this end, the University has spent several years building relationships with Pacific communities in South Auckland and runs a number of information sessions for families and communities and also meets with parents of Pacific students to talk to them about how University will be for their child.

Over the period of this Investment Plan the University will continue with its South Auckland Pacific student recruitment activities. As noted in Supporting Student Achievement section of this Plan, the University is enhancing its student support services for Pacific students and developing a Pacific student space which will help students from all regions, including South Auckland, become a part of the University of Waikato community while recognising students’ individual identities and where they have come from.
Primary Industries
The University works very closely with CRIs who are, in turn, highly connected to primary industry; research undertaken between Waikato and CRIs often has direct application within primary industries.

The University also offers pathways for students who have undertaken study at other tertiary providers, including those who specialise in qualifications for primary industries; pathways can include credit for previous study (where study has been completed at an appropriate level for such credit) and guaranteed entry to University bachelors qualifications, including study in Agribusiness and Agritech.

Over the period of this Investment Plan the University will continue to undertake high-quality research that is directly applicable to primary industries, as well as working with primary industries to provide students with work experiences as part of their undergraduate degree programmes. The University will continue to offer a range of programmes and specialisations that have direct relevance to primary industries and will work with other tertiary providers to provide pathways to university-level study for those students who have an interest in the primary industries.

Financial and Capital Asset Management

Financial management
While the overall financial management of the University is the responsibility for the Vice-Chancellor, the University has in place an internal control environment and a financial management framework that includes the delegation of responsibilities and accountabilities in relation to specific aspects. The financial management framework is underpinned by a robust suite of policies; in most cases these policies are supported by guidelines and procedural documents which clearly set out expected behaviours.

Accountabilities and responsibilities associated with the financial management framework are monitored through the University’s policy compliance monitoring tool; through this tool policy owners are required to regularly report on whether they have systems in place to monitor compliance with the policy and to report any policy breaches. Following the reconstitution of the University of Waikato Council in late 2015, changes have been made to the committees of Council; these changes have included the establishment of an Audit and Risk Committee which is required by Council to ensure that adequate processes are in place for monitoring the financial performance of the University, and also to review University policy related to financial matters.

The University develops operating plans and budgets annually, which are subject to approval by Council. Financial performance is monitored regularly against budgets; results and variances (and required actions) are reported regularly to senior management, Audit and Risk Committee and Council.

The University’s Chief Financial Officer maintains financial models and systems that enable the University to forecast future revenue and expenditure streams, cash flows and capital expenditure for the short, medium and long-term.

Capital Asset Management
In accordance with expectations from Government, the University is undertaking a Capital Asset Management Project to set aspirational but realistic and achievable targets for capital asset management; targets will be set based on the scale of assets under the University’s management and how critical those assets are to the delivery of key services. The University appointed a Project Manager in January 2016 to manage the University’s Capital Asset Management Project, with an initial focus of activity to develop the scope of the project. It is intended that the project will deliver an end-to-end Capital Asset Management process to reduce or move a significant number of current operational risks around manual processes, dependence on tacit knowledge of certain staff, or legacy systems that are due for replacement. This is in addition to meeting the increasing needs of providing operational and strategic information to the University’s external stakeholders, or the University’s Senior Leadership Team and governance bodies. The Capital Asset Management Project will continue over the period of this Investment Plan.
As part of its capital planning framework, the University of Waikato has developed a Hamilton Campus Development Plan, which is its key Building, Infrastructure and Urban Design Planning tool. This Plan is lodged with both the University’s landlord (Tainui Group Holdings) and the Hamilton City Council, and forms the basis for forward capital planning under the Major Facilities Zone of the Hamilton City Council District Plan.

The objectives defined in the Hamilton Campus Development Plan are the framework for the University’s capital development. These objectives relate to:

- sustainable development
- a sense of place
- built environment
- landscape environment
- transportation and parking
- Town and Gown integration
- development and process.

The University’s capital development planning takes account of a number of diverse factors, including enrolment projections, space to EFTS ratios, and student numbers to EFTS ratios. It also takes account of trends and projections, both within the University as well as nationally and globally, associated with research, modes of teaching delivery, and technology. The University’s capital development planning takes account of building condition audit data and Levels of Service analyses.

The University’s capital development planning is management in part by the University’s new Capital Development Committee, which is charged by Council to ensure that the University’s capital developments are aligned with University Strategy and to solicit and consider proposals for large-scale (more than $5M) capital developments, to consult with and advise the proposers and relevant stakeholders as appropriate, and to make recommendations to Council about the approval and funding of such proposals.

Over the period of this Investment Plan, the University’s large-scale capital development projects will include:

- the development of a University campus in the Tauranga Central Business District
- the implementation of a new Student Learning and Management System
- the development of a new multi-use complex that includes a new University Marae on the Hamilton campus.

**Performance Against Previous Investment Plan (2015-2016)**

The University of Waikato has continued to deliver a strong performance across many aspects of its operations. Under a new leadership regime, University of Waikato staff delivered quality teaching and continued to undertake world-changing research which made vital contributions to national and international challenges in many areas. Details of performance to date against commitments in its last Plan (2015-2016) are outlined in the Statement of Service Performance in its Annual Report 2015.

**Contribution towards Māori and Pacific learners’ participation and achievement at all levels at least on a par with other learners**

Over the period of the previous Investment Plan the University has been successful in increasing Māori and Pacific participation. It is recognised that progress towards the achievement outcomes for Māori and Pacific students has not progressed as quickly as the University had planned; the University recognises that the issues relating to Māori and Pacific achievement are complex and there will be significant time lags associated with improving outcomes because of the many systemic bases for the difference in achievement rates for Māori and Pacific students. As noted above, over the period of this investment plan the University will refocus its efforts to improving the achievement outcomes of Māori and Pacific students.
The University of Waikato increased its proportion of Ministry-Funded EFTS generated by Pacific students to 6.7% in 2015, the highest proportion ever-recorded by the institution. This growth was underpinned by a significant growth in the proportion of Pacific students from outside the Waikato/Bay of Plenty region choosing to study at Waikato.

Māori students made up 22.1% of the University’s Ministry-Funded EFTS, with 75% of those students coming from the Waikato/Bay of Plenty region.

Both the Māori and Pacific student cohort are increasingly comprised of a more youthful age profile reflecting the demographic trends in both ethnicities; both within the region and nationally. While the increase in young Pacific and Māori students has negatively impacted on pass rates, the University feels it is important to provide pathways to learning for new students, other than the traditional channels.

The University’s support initiatives for Māori students are strong and have been built up over many years; these were labelled “excellent” and singled out for comment in the 2015 AQA Cycle 5 Academic Audit. The paper completion rate of students who identify as Māori remains at about 80%.

As part of its drive to ensure Māori and Pacific students have access to and are successful at university study, Waikato focuses strongly on these groups. Within this ongoing engagement and oversight of Māori students the Office of the Pro Vice-Chancellor (Māori) has continued to work within the Waikato Students’ Union and the various Māori student groups on campus to deliver the well-received social cultural programme on the Hamilton campus. Groups and student coordinators also travelled to Tauranga throughout 2015 to connect with those students.

In-depth consideration of 2014 results for Pacific students highlighted a cohort of students that were potentially at high-risk of failing. These students were school-leavers, aged under 20 and not living in the University’s halls of residence. A new early intervention programme was put in place for these students for 2015.

Examination of student characteristics in papers that have tended to feature in the University’s list of Low Performing Provision identified that a number of these papers tended to have disproportionately high proportions of Māori and Pacific students and that these students were at a higher risk of failing than other students in the same papers. To address issues relating to achievement in ANTH101, one of the larger papers frequently in the University’s list of Low Performing Provision, the Faculty of Arts and Social Sciences has made changes to the pedagogy and structures of the paper to improve student performance; changes include closer monitoring of student performance and early contact with those students either failing assessments or not submitting. In 2015 Māori and Pacific students made up 56% of all Ministry-Funded students enrolled in the paper. 2015 was the first year since 2012 that ANTH101 did not appear on the University list of Low Performing Provision.

Specific initiatives undertaken during the previous Plan period to support Māori student achievement included, but were not limited to:
- Student mentoring programme operated by the Office of the Pro Vice-Chancellor (Māori) and included the creation of a Senior Māori Mentor role to focus on activities designed to enhance Māori student retention across the institution
- Te Huakirangi Summer School programme targeting Māori students wanting to undertake qualifications in Science and Engineering
- Additional funding allocations too support Māori student mentoring activities in Tauranga
- Introduction of a student exchange award to encourage Māori students to undertake overseas exchanges as part of their programme of study
- Toi o Matariki Graduate and MAI Doctoral programmes
- PhD writing retreats and kaupapa Māori workshops for Māori doctoral students
- Establishment of a programme coordinator position to support Māori graduate students and to run the Te Āhurutanga Leadership programme.
In support of Māori student achievement more widely the University extended the following support for the Māori student association over the period of the previous Investment Plan:

- Contestable funding made available to support student group activities and conference/hui attendance
- Student representation on Te Puna Tautoko (Māori support network)
- Established Te Kāhuiringa Tumuaki – committee of the chairs of the Māori student associations including the Waikato Students’ Union
- Hosted Hui Tauira Māori to enhance collaboration between Māori student groups.

Over the period of the previous Investment Plan, the University undertook a number of activities in support of Pacific student achievement, including (but not limited to) the following:

- Holding Pacific Student Success Forums for all divisional and faculty staff who provide support for Pacific students to allow the sharing of knowledge and best practice and to ensure a consolidated approach to supporting Pacific students success across the University
- Quarterly meetings of Pacific Student Association provide opportunities for student leaders representing each of the major Pacific student groups on campus to get together and enhance connectedness amongst the Pacific student cohort and increase the sense of belonging to the University of Waikato. The Pacific groups play an invaluable role in providing peer support to their members which helps in retention and success of Pacific students at Waikato
- Regular workshops for Pacific students covering topics aimed at building academic skills and enhancing success; student learning services, career development services, community guest speakers and Pacific alumni are among the groups that present at workshops
- Postgraduate writing retreat for Pacific students to support and facilitate Pacific success in the graduate and postgraduate space
- Manu Moana Pacific Student Leaders programme offered to scholarship students and other Pacific students identified as emerging leaders
- Celebratory events held to recognise awardees of Edna Money Pacific academic achievement and excellence scholarships and recipients of Tapa Awards
- Support for students to create activities on campus to promote the varying Pacific language weeks with a view to growing a stronger Pacific presence on campus and to encourage the student/staff community to learn more about Pacific cultures
- Graduation dinner for Pacific students to celebrate and promote Pacific student success and achievement at the University
- Support for Pacific student associations to host or attend fono and conferences and to resource targeted support activities – particularly where they promote academic success

Contribution towards excellence and distinctiveness of institutional mission
Professor Quigley began his term as Vice-Chancellor in February 2015. Following extensive discussion and consultation he began implementing changes in the management structure of the University designed to provide clear allocations of responsibilities for decision-making and to provide a basis for major changes to the culture of the organisation. The structure has been designed to help the University move quickly from strategic planning and consultation to decision-making and implementation. It will allow the institution to focus on curriculum development; provide a greater focus on learning support and central oversight of the learning support provided by Faculties; improve research performance to maximise achievement in the Performance Based Research Fund and external research income; and enhance external engagement.

The University continued to return strong financial results, and was again rated ‘low risk’ against the TEC’s Financial Monitoring Framework. The University invested in a programme of enhanced retirement provisions and a small number of redundancies in 2015 with a view to strengthening the underlying operating position of the University since replacements will only be made in growth areas or in areas of new investment.

The University continued to utilise an internal Strategic Investment Fund, but the round conducted in 2015 for investment in 2016 introduced a number of fundamental changes. In particular, while the total sum available for allocation was larger, funding allocations were more strictly focussed on large projects with clear pathways to support strengthening student enrolments or research income, with small projects being
required to be funded out of base Faculty or Divisional budget allocations. In addition, the University used its Strategic Investment Fund to create a new internal research grant scheme from which grants of up to $40,000 can be provided to staff, with the focus being on the support of work that will underpin applications for external research funding.

In support of the Government’s initiative to increase the number of ICT graduates required by employers, the University of Waikato and the University of Auckland joined forces to establish one of three new ICT Graduate Schools across New Zealand. The new graduate school will meet the growing demand for industry-ready ICT graduates who have a mix of ICT, critical thinking and other complementary skills. The introduction of a Master of Information Technology (MInfoTech) and the Postgraduate Certificate in Information Technology (PGCertInfoTech) was approved in 2015; these qualifications will be jointly awarded qualifications by the University of Auckland and the University of Waikato through the ICT Graduate School. The Master of Information Technology has been designed to provide students with experience of the workplace and workplace skills while furthering their IT skills. A feature of the programme is a directed research internship course, ensuring students gain industry-specific skills and experience. The PGCertInfoTech will provide an entry route for students who want to complete the MInfoTech but who do not meet the GPA entry requirements for that qualification.

The University prides itself on bringing interdisciplinary approaches to some of the biggest problems faced nationally and around the world. In Agri-Environment the University continued to work on carbon capture and research into measuring greenhouse gases on farms to test mitigation strategies and decrease emissions while also maintaining production. Researchers from Science, Management, and Computing and Mathematical Sciences have been exploring integration, using machine learning for data, modelling for maximum sustainable yield and the biophysical measurements of exchanges.

The University has been recognised by the Ministry for Business, Innovation and Employment as a key link for China-New Zealand freshwater research and training. The University has funding for a major research project ‘New methods and technologies to enhance land use practices and restore ecological resilience of significant aquatic ecosystems’ which is jointly run between freshwater researchers in New Zealand (the University and NIWA) and China (Nanjing Institute of Geography and Limnology (NIGLAS), Chinese Academy of Sciences). The research project formalises a 10-year collaboration between the University and NIGLAS and is closely aligned with new freshwater regulations in respective countries. As part of this initiative, Masters level coursework focussed on modelling nutrient and chemical fates in freshwater systems has been developed.

Over the period of the Investment Plan 2015-2017, the University of Waikato developed the following new qualifications:

- Masters of Teaching and Learning (Māori Medium)
- Masters of Business Management (Specialised)
- Bachelor of Engineering with Honours (Civil Engineering)
- Bachelor of Engineering with Honours (Environmental Engineering)
- Masters of Science (Research) in Environmental Sciences
- Masters of Information Technology (for ICT Graduate School)
- Postgraduate Certificate in Information Technology (for ICT Graduate School)
- Masters of Security and Crime Science

A number of other University qualifications had minor amendments made to them over this period. The impact of the introduction of these qualifications will be more evident over the period of this Investment Plan.

Environmental Sciences has been added as a subject to Waikato’s MSc (Research). The new subject provides an interdisciplinary approach and is a “deepening degree” that allows students who have completed the undergraduate BSc degree with a major in Environmental Sciences (or other subjects) to continue into a Masters degree and increase the depth of their interdisciplinary environmental studies as well as to undergo the traditional rigour of a research-based degree.
The University remains on track in terms of its contribution to Government’s ambitions for more Engineering graduates in coming years and is continuing to invest in Engineering with plans to boost offerings in Engineering with the introduction of a Civil Engineering major and an Environmental Engineering major in response to demand from industry and prospective students. As part of the University’s organisational restructure in 2015 the Faculty of Engineering has been established to reflect the University’s strategic emphasis on Engineering and recruitment for a Dean of Engineering is underway.

In the Bay of Plenty, the University continued to enhance tertiary provision, with major milestones being achieved in 2015 relating to the Tauranga CBD campus development. The Heads of Agreement was signed in May 2015, articulating the regional funding and milestones to be achieved during the course of the project.

Architects and project managers were appointed during 2015 and work has continued in 2016 on design concepts for the first stage of the campus building. The University is leading the project on behalf of the Bay of Plenty Tertiary Education Partnership and will provide a world-class, university-led campus that will strengthen the network of tertiary campuses in the Bay of Plenty. Construction of the new tertiary campus is planned to commence during the period of this Investment Plan.

The merger of Waikare Institute of Technology and the Bay of Plenty Polytechnic was announced in late 2015, and took effect from 1 May 2016. As part of the Minister’s media release, Steven Joyce noted that “(he was) pleased the new institution will develop a strong relationship with the University of Waikato. This will see the partnership already formed between BoPP and the University in Tauranga extended to Rotorua. This will be particularly relevant to progress freshwater research in the Rotorua area.” Over the period of this Investment Plan the University will be working with the new combined entity to further cooperation and enhance the network of provision in the Bay of Plenty.

In 2016 the University of Waikato Adams Centre for High Performance was launched as the catalyst for transforming Tauranga City into a Centre of Excellence for High Performance Sport. The University’s 265 m² of tenancy space within the Centre includes a purpose-built laboratory, within which can be found a state-of-the-art environmental chamber. The laboratory is used for the purpose of sports science and research as well as athletic performance testing. The hi-tech environmental chamber’s capabilities include the ability to control specific heat and humidity requirements. It can also simulate a high altitude environment. The University’s leading-edge space is staffed by academic professionals specialising in sports science and human performance, with that group including both Masters and PhD students carrying out research. This development is closely aligned with the University’s strategy to build expertise and national leadership in health, sports science and human performance. In support of this strategy, in 2015 the University appointed its inaugural Dean of Health, Sport and Human Performance.

In late 2015, the University of Waikato was audited by the Academic Quality Agency for New Zealand Universities as part of its Cycle 5 Academic Audit programme; the audit focussed on teaching and learning and student support, including postgraduate.

The University was commended on:

C1: “the success of the new (2011) Student Centre, incorporating the Library and student learning space, and of the systematic ongoing evaluation of Library usage”

C2: “initiatives to promote the submission of assessment in te reo Māori, its efforts to build capability in both students and staff and on the increasing amount of assessment being submitted either for assessment in te reo Māori or for assessment in translation”

C3: “its Teaching Advocate programme and on the inclusive nature of its suite of awards which recognise teaching”
C4: “its clear and comprehensive documentation pertaining to higher degree postgraduate supervision, including the clear statement of responsibilities of all parties, and the Panel supports the University’s stated intention to enhance oversight of supervision processes related to faculty-based master’s research”

C5: “its overall management of postgraduate research study and in particular notes the various efforts made to encourage postgraduate research students to be active members of the University research community”

Over the period of this Investment Plan the University will be focussing on a range of initiatives that will work towards addressing the recommendations made by the Academic Quality Agency through the Cycle 5 Academic Audit. The University will be reviewing the way it provides a range of services to both staff and students with a view to ensuring an equitable experience for all and that the best use is made of resources; areas under consideration for change are student learning support, induction support for staff and the management of academic integrity and appeals.

Over the period 2013-2015 the University has significantly reduced the volume of its Ministry-Funded EFTS that fit within the TEC definition of ‘low performing provision’ (i.e. pass rate of lower than 60%). Over this period the University has reduced the value of this low performing provision from $1.4M to $900k in 2015, more significantly the number of papers that exceed the 5.0 EFTS threshold for reporting have reduced from 13 in 2013 to five in 2015.

Particular initiatives undertaken to reduce the volume of low performing provision include a review of the number and type of compulsory pieces of assessment within papers (failure to complete these result in an automatic fail of the paper) and more proactive follow-up with students who have failed to engage at an early stage in the paper; to this end changes to paper structures through the curriculum enhancement programme require early assessment to allow earlier identification of those students who have failed to engage with the paper or who need additional support. Early assessment was implemented for all 100-level papers in A semester 2016, and from 2017 implementation is likely to be extended to higher level papers.

A new Curriculum Design Framework (CDF) was agreed in 2015 and is being implemented through revision to, and streamlining of, the paper, course and degree offerings of all the Faculties of the University. The changes being brought about by the CDF will make the structure of Waikato degree programmes easier to understand and will make the value offered by studying each programme more transparent to students and employers. New undergraduate degree requirements introduced through the CDF will differentiate three compulsory aspects of a student’s study that are specifically designed to create a distinctive and highly-employable University of Waikato graduate. All students will be required to take three for-credit papers as part of their undergraduate degree programme: one on the disciplinary foundations relevant to their area of study; one on cultural competencies; and one centred on industry and community engagement via work placements, internships or volunteer programmes.

Focussed on enhancing learning and the student experience are changes to the structure of the academic year which were approved in 2015. Under these changes, the summer semester will be lengthened to provide greater study and work experience opportunities, Orientation Week will occur before teaching begins, and all 100-level papers will have an assignment within the first three weeks of the semester to ensure students get early feedback on their understanding of and engagement with the course material.

The University is committed to assisting the communities in its region to overcome barriers to university study. In 2015 Te Ara ki Angitū – the Pathway to Excellence project – was launched with the four secondary schools in Tokoroa and Putaruru. In these communities, the cost of study and distance from the University’s campus create barriers to university study for a substantial number of students. Te Ara ki Angitū combines work with the four high schools to promote programmes of study in NCEA that will allow students to obtain University Entrance, provides new scholarships (a substantial net addition to the scholarships provided by the University) and a subsidised bus service that will run daily from Tokoroa to Putaruru to the University each week-day during a and B semesters. With the support of the community in the Waitomo District, a decision was made late in 2015 to extend the bus service provided by the University to Te Kuiti.
and Otorohanga. Further extension of the service will be considered in 2016 where appropriate partnerships with communities and schools can be established.

The University created a new School of Graduate Research in 2015. The School, under the leadership of its Dean Professor Kay Weaver, is charged with creating a stimulating interdisciplinary postgraduate research environment and overseeing issues relating to postgraduate student concerns within the University. The School has central responsibility for the quality assurance, policy, regulations and oversight of all doctorates (higher doctorates, professional doctorates and Doctor of Philosophy), Master of Philosophy and 90 or 120 point Masters theses. The Cycle 5 Academic Audit, undertaken by AQA in 2015, praised the University for its clear and comprehensive documentation around higher degree postgraduate supervision, and for our overall management of postgraduate research study, including the work undertaken to encourage postgraduate research students to be active members of the University research community.

During 2015 the University worked closely with the Waikato Students’ Union to establish a programme for student innovation. The Summer Start-Up Programme gives students 10 weeks to develop their own project or idea with the help of an expert start-up coach, workshops and full-access to a shared working space. Outside organisations have sponsored and are supporting the programme which has presented a total of 29 scholarships – 19 to students studying at the Hamilton campus, five studying at the Tauranga campus, and another five were awarded to students studying at the Bay of Plenty Polytechnic for a related programme called Project Ignite.

A total of 1,476 students took part in work placements, internships or work experience in 2015. As noted above, the University has plans to increase the opportunities for students to undertake these experiences as part of all undergraduate degrees as an outcome of the new Curriculum Design Framework. All Faculties, with the exception of Education, had an increase in placement numbers in 2015.

The University climbed more than 60 places in the 2015 QS World University Rankings to be ranked 338 in the world. The key driver of this climb was an increase in staff citation rates for Waikato, indicating the University is producing research which is internationally regarded and of a high standard. This is further evidenced by the rankings of individual disciplines with Waikato having 10 subjects ranked in the top 200 QS World University Rankings by Subject. These subjects ranked in the top 200 in 2015 were Law, Education, Economics and Econometrics, Computer Science and Information Systems, Linguistics, Accounting and Finance, Communications and Media Studies, Business and Management Studies, Geography, and Sociology.

Results of the 2015 student surveys (ISB and dSB) showed that students at Waikato were more satisfied than the global average for students at other universities internationally with their overall university experience, learning experience and student support services. In the 2015 ISB survey, international students rated their overall experience at the University of Waikato as second best in New Zealand and 49th globally. A total of 80% of both domestic and international students would recommend Waikato to others, a figure that has increased each year the survey has been conducted. Changes introduced in response to previous student surveys (in the areas of Career Services and Fees and Finance) have resulted in marked improvements in student satisfaction with these areas in the 2015 survey.

Results from the 2015 Staff Survey highlighted issues around communication, staff training and support and learning from previous mistakes. As a consequence of the themes identified, focus groups have been held with staff in order to gain a more in-depth understanding of staff issues and concerns and, over the period of this Investment Plan, action will be undertaken to address staff concerns and improve communication across the institution.

In 2015 the University created a dedicated International Office; the Office supports the organisation’s strategic direction around internationalisation by identifying, developing and managing strategic partnerships including development of offshore activity; looking after study abroad and student exchange; and international student recruitment.
Full-Cost International EFTS increased in 2015, particularly from China which was up 11% on 2014, and providing strong international student pipelines for future years. The University experienced strong growth in students from Saudi Arabia (+24%) and Germany (+36%) albeit from a lower base.

The University continues to bring in a substantial number of students from its 2+2 partnership programmes in China through Shanghai International Studies University (SISU) and Zhejiang University City College (ZUCC). Most notably, students transferring from SISU increased 60% from 2014 with 154 students enrolling in 2015; due to joint efforts by Waikato and SISU on marketing and promotion SISU numbers have climbed steadily from a base of 21 students in 2000. The relationship between Waikato and ZUCC continues to be successful with 55 students transferring to Waikato in 2015.

Building on this pattern of success, and its pioneering efforts in international credit transfer arrangements dating back to 1993, over the period of this Investment Plan the University plans to replicate this partnership model in other key countries in Asia.

In 2015 the University entered into a consortium agreement with Victoria University of Wellington and the University of Otago to jointly develop and deliver a Foundation programme in partnership with Kolej Yayasan Saad International College (KYSIC) in Malaysia. The agreement is the first of its kind in New Zealand and aims to provide a consistent flow of undergraduate students studying in Malaysia who seek a degree from universities who consistently rank in the top 3% globally.

In 2015, Education New Zealand provide the University of Waikato with $185,000 of matched funding to support its strategy to develop offshore opportunities, specifically to investigate and develop joint teaching programmes in Vietnam, India and Malaysia. Part of the University’s strategy in this area is to diversify across subject disciplines, and a key component of success is ensuring that students are equipped with the appropriate English skills with subject content e.g. English for Engineers. Additional matched ENZ funding of $70,000 was secured to support development of an English language programme with Hebei University of Science and Technology which enrolled 70 students into its first cohort in 2015. It is expected that a high proportion of these students will transfer to Waikato to complete a degree in 2018. The development of this English curriculum is expected to be replicated for other disciplines in the future.

The high national and international standing of the research and teaching being undertaken at the University of Waikato was confirmed in 2015 by the wide range of awards received. These awards included the following:

Dr Ryan Ko, who won the Cloud Security Alliance (CSA) ‘Cloud Security Ninja’ award after being ranked number one by the CSA jury on professionalism, innovation, role modelling and measurable success. The award recognises technical experts in the Asia Pacific Cloud Security Industry who are hands-on and operational in charge of running the Cloud security operations in their organisations. Dr Ko leads the $12M, MBIE-funded STRATUS project on cloud security at the University of Waikato.

The University’s Chair of Coastal Science and Head of the Coastal Marine Group, Professor Chris Battershill, was awarded Science Communicator of the Year by the New Zealand Association of Scientists in 2015. It was jointly presented to Professor Battershill and Canterbury University marine scientist Professor David Schiel for their collaborative efforts promoting understanding of the science related to environmental recovery from the MF Rena oil spill off Tauranga in 2011.

Associate Professor Sandy Morrison was appointed to a four-year role as the global head of the International Council for Adult Education (ICAE), a network of organisations advocating for youth and adult education as a universal human right and a path to sustainable communities. She is the first New Zealand and only the second woman to head the organisation.

International and criminal law expert Professor Neil Boister won a EUR46,000 prize at the annual Alexander von Humboldt Research Awards Winners Symposium in Germany early in 2015. Professor Boister was recognised in particular for his development of the study of transnational criminal law.
Dr Naomi Simmonds won the New Zealand Geographical Society’s 2015 President’s Award for Best Doctoral Thesis work on the experiences of Māori women and whānau in relation to pregnancy and childbirth.

Dr Karsten Zegwaard won the Donald MacLaren Jr Academic Award for Professional Achievement in Cooperative & Work-Integrated Education. Dr Zegwaard is the director of the Cooperative Education Unit at Waikato and his research focuses on work placement preparation, student self-efficacy, professional identity development, and professional ethics and workplace values.

Two Waikato academics were awarded a Rockefeller Foundation Grant to organise and host a major international symposium in Bellagio, Italy. Professors Priya Kurian and Debashish Munshi travelled to Italy in July 2015 to host Climate Futures: Re-imaging Global Climate Justice.

On 7 April 2016 the Prime Minister of New Zealand, Rt Hon John Key, officially opened the University’s new Law building.

The new building houses Te Piringa - Faculty of Law and Waikato Management School’s Centre for Corporate and Executive Education, as well as student services for both Faculties. The building is comprised of a five-storey office tower and rooms below-ground level that feature a living lawn roof. The tower is linked below ground-level to the existing Management building on Hillcrest Road, and has offices, interview/meeting rooms, a boardroom, computer labs, student services, function areas, reception and research areas, a sunken courtyard and a moot courtroom. Furnishings in the moot courtroom came from the old Manukau District Court and a history of the University dating from 1964 is featured in photographs along a history wall in the stair-well.

The Law and Management building project was the major capital project undertaken by the University over the period of the previous Investment Plan.

Contribution towards being active and successful in knowledge transfer from research activities and linkages with industry

The University of Waikato’s position as an innovative research institution with a strong focus on industry and community applications was demonstrated by the wide range and high value of the research grants received by researchers. In 2015 the University’s Research and Development income was $73.478M or 30.06% of total consolidated revenue.

The University prides itself on bringing interdisciplinary approaches to some of the biggest problems faced nationally and around the world. In Agri-Environment, the University continued to work on carbon capture and research into measuring greenhouse gases on farms to test mitigation strategies and decrease emissions while also maintaining production. Researchers from Science, Management, and Computing and Mathematical Sciences have been exploring integration, using machine learning for data, modelling for maximum sustainable yield and biophysical measurements of exchanges.

The University has been recognised by the Ministry for Business, Innovation and Employment as a key link for China-New Zealand freshwater research and training. The University has funding for a major research project ‘New methods and technologies to enhance land use practices and restore ecological resilience of significant aquatic ecosystems’ which is jointly run between freshwater researchers in New Zealand (the University and NIWA) and China (Nanjing Institute of Geography and Limnology (NIGLAS), Chinese Academy of Sciences). The research project formalises a 10-year collaboration between the University and NIGLAS and is closely aligned with new freshwater regulations in the respective countries. As part of this initiative, Masters level coursework focussed on modelling nutrient and chemical fates in freshwater systems has been developed.

During 2015, the University boosted its support to researchers, with specific attention being paid to those compiling bids for Marsden, MBIE or Health Research Council grants. The Research and Enterprise Office had provided targeted professional development for those helping write research bids, and staff have worked closely with researchers to translate their ideas for problem-solving into funding. The University has
also appointed new research developers and business relationship managers based in Auckland and Wellington and calls on in-house expertise around Mātauranga Māori and providing interdisciplinary approaches.

WaikatoLink continued to deliver on its strategic goal of supporting the University across a range of Intellectual Property (IP) commercialisation, research development and industry engagement opportunities in 2015, resolving long-standing legacy issues, and delivering a positive financial result while providing leadership to New Zealand’s commercialisation ecosystem. Further work to integrate the Research Office and WaikatoLink Ltd took place in 2015 under the watch of the new Deputy Vice-Chancellor Research to deliver improved research funding and outcomes.

An Intellectual Property Investment and Advisory Committee reporting to the Senior Deputy Vice-Chancellor was established in 2015 to support a seamless interface between the University and WaikatoLink and to ensure coordination of IP management at an institutional level. WaikatoLink continues to lead the KiwiNet consortium with a further three years’ funding secured from MBIE.

The sale of US company Pentaho to Hitachi triggered a significant return to the University. The equity holding, worth $1.1M, was secured as part of a licensing deal of WEKA software. 11Ants was sold to a joint venture between Air New Zealand and Canadian-listed company Aimia; Aduro Biopolymers is raising capital to scale-up manufacturing capability and is delivery new products for the meat industry, and Ligar polymers, a joint venture between Wintec and WaikatoLink, with investment from Wallace Corporation, is developing new products for companies including Pfizer, Bayer, and Pall among other blue chip companies.

Demonstrating the very high level of industry engagement by University of Waikato researchers, the Ministry of Business, Innovation and Employment (MBIE) allocated University researchers nearly $10M for four research projects that aim to provide solutions to the problems and challenges in the environment and economy.

In total in 2015, the University won more than 200 new externally funded research contracts, from 120 bodies with a value of more than $40M over the life of the contracts.

Waikato’s work in areas of national importance was recognised during 2015 with the University receiving external funding to support two targeted professorial positions. The Ministry for the Environment is jointly funding a Chair in Environmental Economics with the Waikato Management School to which Professor Graeme Doole was appointed in 2015. The position is funded by the Ministry in recognition of the need for government and communities to make complex decisions about managing fresh water. Professor Doole will help local bodies build capabilities in this area and will also act as an advisor. The Dr John Gallagher Chair of Engineering was initiated in 2015 by long-time supporter of the University, Dr John Gallagher. A significant gift from Dr Gallagher and his wife Glenice, for a period of at least five years, will fund the endowed Chair. It will focus on agriculture, especially grassland farming and retaining manufacturing of agricultural products in New Zealand.

2015 marked the end of the 10-year MBIE funded Outcome Based Investment on Lake Restoration. A number of significant outputs and outcomes were achieved through the OBI including a marked enhancement of the water quality in Lake Rotoiti, the identification of environmental and human factors associated with pest fish occurrence in lake catchments and the risk of invasion, the development of integrated technologies to allow remote monitoring of water quality to provide real time resource assessment of spatial and temporal variations, high quality research publications – 60% of journal articles were published in quartile 1 ranked journals, graduates of the OBI have gone on to employment destinations creating a network of professionals across Councils, Government departments, Research Institutes, universities and other organisations who can share the knowledge they have gained through the OBI. The success of the programmes is evidenced by the fact that MBIE chose to award further funding in the amount of $5.1M for the continuation of the University’s lakes research.
### SECTION B: Forecast Statement of Service Performance

<table>
<thead>
<tr>
<th>Sub-Category</th>
<th>2013 Actual</th>
<th>2014 Actual</th>
<th>2015 Actual</th>
<th>2017 Target</th>
<th>2018 Target</th>
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<tbody>
<tr>
<td><strong>1. Volume of MF/SAC-eligible EFTS delivered</strong></td>
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<tr>
<td></td>
<td>8,726 EFTS</td>
<td>8,473 EFTS</td>
<td>8,451 EFTS</td>
<td>8,600 EFTS</td>
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<td><strong>2. Proportion of SAC-funding delivered</strong></td>
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<td>99.3%</td>
<td>98.8%</td>
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<td>102%</td>
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<td><strong>3. Volume of Full-Cost International EFTS delivered</strong></td>
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<td></td>
<td>1,408 EFTS</td>
<td>1,401 EFTS</td>
<td>1,535 EFTS</td>
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<td><strong>4. Proportion of total EFTS generated by FCI students</strong></td>
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<td></td>
<td>13.9%</td>
<td>14.1%</td>
<td>15.3%</td>
<td>15.7%</td>
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<td><strong>5. Volume of total EFTS delivered</strong></td>
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<tr>
<td></td>
<td>10,159 EFTS</td>
<td>9,904 EFTS</td>
<td>10,018 EFTS</td>
<td>10,200 EFTS</td>
<td>10,500 EFTS</td>
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<td><strong>6. Risk rating against the TEC’s Financial Monitoring Framework</strong></td>
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<tr>
<td><strong>7. Research and Development (R&amp;D) revenue generated</strong></td>
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<tr>
<td></td>
<td>$67.3M</td>
<td>$66.5M</td>
<td>$73.5M</td>
<td>$57.6M</td>
<td>$58.3M</td>
</tr>
<tr>
<td><strong>8. Proportion of MF/SAC-eligible EFTS who are Māori</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>21%</td>
<td>22%</td>
<td>22%</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>who are Pacific</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.1%</td>
<td>6.0%</td>
<td>6.7%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td><strong>9. Paper completion rates (Level 4 and above) for</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>MF/SAC-eligible students</td>
<td>85.2%</td>
<td>84.7%</td>
<td>84.3%</td>
<td>85%</td>
<td>85%</td>
</tr>
<tr>
<td>MF/SAC-eligible students who are Māori</td>
<td>80.2%</td>
<td>78.9%</td>
<td>78.3%</td>
<td>80%</td>
<td>81%</td>
</tr>
<tr>
<td>MF/SAC-eligible students who are Pacific</td>
<td>65.1%</td>
<td>69.4%</td>
<td>67.1%</td>
<td>71%</td>
<td>72%</td>
</tr>
<tr>
<td>FCI students</td>
<td>87%</td>
<td>89%</td>
<td>89%</td>
<td>85%</td>
<td>85%</td>
</tr>
<tr>
<td><strong>10. Student retention rates (Level 3 and above) for</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(cohort based approach)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>MF/SAC-eligible students</td>
<td>68.1%</td>
<td>70.6%</td>
<td>72.1%</td>
<td>72%</td>
<td>72%</td>
</tr>
<tr>
<td>MF/SAC-eligible students who are Māori</td>
<td>62.7%</td>
<td>63.9%</td>
<td>65.4%</td>
<td>66%</td>
<td>67%</td>
</tr>
<tr>
<td>MF/SAC-eligible students who are Pacific</td>
<td>67.3%</td>
<td>60.9%</td>
<td>72.3%</td>
<td>65%</td>
<td>68%</td>
</tr>
<tr>
<td>FCI students</td>
<td>81.3%</td>
<td>79.1%</td>
<td>85.9%</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td><strong>11. Qualification completion rates (Level 4 and above) for</strong></td>
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<tr>
<td>(cohort based approach)</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>MF/SAC-eligible students</td>
<td>60.5%</td>
<td>60.1%</td>
<td>63.1%</td>
<td>63%</td>
<td>63%</td>
</tr>
<tr>
<td>MF/SAC-eligible students who are Māori</td>
<td>47.4%</td>
<td>48.3%</td>
<td>52.4%</td>
<td>54%</td>
<td>56%</td>
</tr>
<tr>
<td>MF/SAC-eligible students who are Pacific</td>
<td>44.7%</td>
<td>47.7%</td>
<td>46.6%</td>
<td>48%</td>
<td>50%</td>
</tr>
<tr>
<td>FCI students</td>
<td>81.9%</td>
<td>72.9%</td>
<td>74.2%</td>
<td>73%</td>
<td>73%</td>
</tr>
<tr>
<td><strong>12. Number of industry/work placements undertaken</strong></td>
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<tr>
<td></td>
<td>2,082</td>
<td>1,828</td>
<td>1,794</td>
<td>1,900</td>
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<td><strong>13. Voice staff survey results</strong></td>
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<tr>
<td>staff engagement scale</td>
<td>-</td>
<td>79%</td>
<td>77%</td>
<td>&gt;77%</td>
<td>&gt;2017 result</td>
</tr>
<tr>
<td>organisational progress scale</td>
<td>-</td>
<td>54%</td>
<td>47%</td>
<td>&gt;47%</td>
<td>&gt;2017 result</td>
</tr>
<tr>
<td></td>
<td>Sub-Category</td>
<td>2013 Actual</td>
<td>2014 Actual</td>
<td>2015 Actual</td>
<td>2017 Target</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------------</td>
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<td>-------------</td>
<td>-------------</td>
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<tr>
<td>14.</td>
<td>Proportion of Professorial/Associate Professorial staff who are female</td>
<td>24% Prof</td>
<td>27% Prof</td>
<td>28% Prof</td>
<td>≥25% Prof</td>
</tr>
<tr>
<td></td>
<td></td>
<td>38% A.Prof</td>
<td>35% A.Prof</td>
<td>40% A.Prof</td>
<td>≥35% A.Prof</td>
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<tr>
<td>15.</td>
<td>i-Graduate student survey</td>
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<tr>
<td></td>
<td>(domestic) student satisfaction with overall university experience</td>
<td></td>
<td>93%</td>
<td>95%</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(domestic) student satisfaction with learning experience</td>
<td></td>
<td>91%</td>
<td>93%</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(domestic) student satisfaction with student support services</td>
<td></td>
<td>93%</td>
<td>92%</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(international) student satisfaction with overall university experience</td>
<td>91%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(international) student satisfaction with learning experience</td>
<td>88%</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>(international) student satisfaction with student support services</td>
<td>91%</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>16.</td>
<td>Ranking</td>
<td></td>
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<tr>
<td></td>
<td>in the annual World THE University Ranking</td>
<td>311</td>
<td>391</td>
<td>401-500</td>
<td>&lt;500</td>
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<tr>
<td></td>
<td>in the annual QS World University Ranking</td>
<td>401-410</td>
<td>401-410</td>
<td>338</td>
<td>&lt;500</td>
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<tr>
<td>17.</td>
<td>Number of public lectures, seminars and performing arts activities delivered</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>327</td>
<td>217</td>
<td>202</td>
<td>&gt;200</td>
</tr>
</tbody>
</table>