College of Sciences Proposal for Change- Final Decision

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Final Decision – Introduction

On 2 October 2023, I released a Proposal for Change document to all staff in the School of Food and Advanced Technology (SFAT) and the School of Natural Sciences (SNS) titled *'College of Sciences Proposal for Change'*. A modified version of the proposal, that did not contain details on proposed position impacts, was released to the College (staff and students) and broader stakeholder community. Thereafter followed a consultation process which engaged staff in SFAT and SNS, the wider College, the Tertiary Education Union, students, College of Sciences Board, Academic Board, alumni and external stakeholders.

The initial Proposal for Change was driven by the need to address financial challenges faced by SFAT and SNS to enable the College of Sciences as a whole to meet the costs of its operating budget. To achieve this imperative, the Proposal for Change:

1. Identified the qualifications and specialisations currently offered by SFAT and SNS (and the location of delivery of these) proposed to be continued vs. those proposed to be discontinued, taking into consideration the University's Digital Plus and Low and No Enrolment policies.
2. Identified the academic and technical staff positions in support of teaching and research activities potentially affected by the proposed changes:
    - 74.5 FTE (89 headcount) positions for which no significant change was proposed, or there would be a possible change of reporting line but no significant change to the position.
    - 95.9 FTE (107 headcount) positions would be disestablished.
    - Three similar positions (2.6 FTE) would be reduced to two, with the disestablishment of 0.6 FTE (2.6 FTE reduced to 2.0 FTE).
    - Nine new positions (8.0 FTE) would be created.
3. Proposed the formation of a new school within CoS comprising staff from the current SFAT and SNS.

The period of consultation was originally scheduled to close on 20 October 2023; however, the period of consultation was initially extended until 29 October 2023. Following the close of consultation, I received and considered an alternative proposal that was prepared by the Tertiary Education Union (TEU). In view of this, I provided all college staff an opportunity to provide additional feedback on the Proposal for Change up until 20 November 2023.

Over this seven-week first consultation period, I held multiple online and face-to-face meetings with staff, TEU members, students, Massey University Academic Governance committees, and external stakeholders, including but not limited to:

- 2 October - initial online meeting with SFAT and SNS staff that provided me an opportunity to talk through the proposed changes.
- 4 October – face-to-face forum with Auckland staff.
- 5 October – special meeting of College of Sciences Board for discussion on the Proposal for Change.
- 5 October – face-to-face forum, Manawatū campus.
- 6 October – face-to-face meeting with Manawatū staff.
- 10 October – online meeting with TEU members.
- 10 October – online meeting with students.
- 12 October – face-to-face meeting with TEU members, Manawatū campus.

- 16 October – online meeting with students.
- 16 October – face-to-face meeting with TEU members, Manawatū campus.
- 17 October – face-to-face meeting with TEU members, Auckland campus.
- 17 October – face-to-face meeting with Engineering students, Auckland campus.
- 18 October – discussion on Proposal for Change at Academic Board meeting.
- 25 October – meetings with leadership of Fonterra and Plant & Food Research.
- 25 October – meeting with leadership of Zespri.
- 26 October – discussion on Proposal for Change with Palmerston North Mayor and members of Palmerston North City Council during Massey SLT – PNCC meeting.
- 1 November – meeting with Horticulture NZ.
- 1 November – meeting with CE Food HQ Ltd.
- 8 November – meeting with iwi and hapu representatives.
- 16 November – meeting with Erica Stanford, MP for East Coast Bays.
- 22 November - meeting with TEU to discuss the TEU alternative proposal.

I also had more than 30 meetings with individual staff and students who wished to meet with me to discuss the proposal in further detail, whilst Dean Research Tracy Riley and CoS Associate Dean Catherine Whitby met with postgraduate students on the Auckland and Manawatū campuses to respond to questions and discuss concerns.

As part of this first consultation process, staff and stakeholders were invited to provide written submissions via pvc.sciences@massey.ac.nz. Some submissions were sent to my personal email or sent to both my personal email and the PVC mailbox. A web page was established for students to provide feedback on the proposal, and students also sent feedback via pvc.sciences@massey.ac.nz. Statistics on feedback submissions are presented in Appendix 7. Acknowledgement of receipt of submissions was provided and where submitters were requesting clarification or more information, a response was provided. There was sometimes a short delay in responding to these queries when the request involved the review of data or the generation of new information. In all communication, I sought to be open, transparent and respectful.

Following the first consultation period, a Preliminary Decision was prepared after careful consideration of all responses received during consultation, including the TEU's and other alternative proposals. The imperative remained to address the financial challenges faced by SFAT and SNS to enable the College of Sciences as a whole to meet the costs of its operating budget. To achieve this imperative, the Proposal for Change – Preliminary Decision:

1. Identified the qualifications and specialisations currently offered by SFAT and SNS (and the location of delivery of these) proposed to be continued vs. those proposed to be discontinued, taking into consideration the University's Digital Plus and Low and No Enrolment policies.
2. Identified the academic and technical staff positions in support of teaching and research activities potentially affected by the proposed changes:
    - 102.9 FTE (124 headcount) positions for which no significant change was proposed, or there would be a possible change of reporting line but no significant change to the role.
    - 66.6 FTE (72 headcount) positions were proposed to be disestablished.
    - Eleven new positions (11.0 FTE) were proposed to be created.
3. Proposed the formation of a new school within the College comprising staff from the current SFAT and SNS.

The Preliminary Decision was released on 27 November 2023 and a second period of consultation was open until 5pm Friday 8 December 2023, following the same process as that used during the first consultation.

Over the second consultation period, I held multiple online and face-to-face meetings with staff, TEU members, students, and external stakeholders, including but not limited to:

- 29 November – online webinar meeting with SFAT and SNS staff that provided me an opportunity to talk through the preliminary decision with a question and answer section
- 29 November – face-to-face meeting with an individual staff member
- 30 November – online webinar meeting with students that provided me an opportunity to talk through the preliminary decision with a question-and-answer session.
- 30 November – face-to-face staff forum with Manawatū staff.
- 30 November – online meeting with Horticulture NZ.
- 1 December – face-to-face staff forum with Manawatū staff.
- 1 December – face-to-face meetings with two separate staff members
- 4 December – face-to-face and online meetings with Auckland and Manawatū Food Technology staff.
- 4 December – face-to-face and online meetings with three separate staff members
- 5 December – online meeting with TEU members
- 5 December – face-to-face and online meetings with two separate staff members
- 6 December – face-to-face and online meetings with five separate staff members
- 6 December – face-to-face meeting with two engineering student representatives
- 7 December – online meeting with TEU members
- 7 December – face-to-face meeting with Plant Science staff
- 8 December – face-to-face meetings with two separate staff members
- 12 December – online meeting with the TEU to discuss revised financial projections as part of the alternative proposal.

Following this second period of consultation and after further discussion with the TEU (including the meeting of 12 December that further considered the TEU Alternative Proposal), a Final Decision was prepared after full and careful consideration of all responses received during the two periods of consultation. The imperative remained to address the financial challenges faced by SFAT and SNS to enable the College of Sciences to meet the costs of its operating budget. To achieve this imperative, the Proposal for Change – Final Decision:

1. Identifies the qualifications and specialisations currently offered by SFAT and SNS (and the location of delivery of these) that have been determined to be continued vs. those determined to be discontinued, taking into consideration the University's Digital Plus and Low and No Enrolment policies.
2. Identifies the academic and technical staff positions in support of teaching and research activities affected by the changes:
    - 101.2 FTE (123 headcount) positions for which there will be no significant change, or there would be a change of reporting line but no significant change to the role.
    - 63.5FTE (67 headcount) positions are to be disestablished.
    - 11 new positions (10.5 FTE) are to be created.
3. Determines the formation of a new school within the College comprising staff from the current SFAT and SNS.

Feedback

Appendix 7 provides a comprehensive summary of feedback received from staff, students, other internal stakeholders, and external stakeholders over the consultation Period for the initial Proposal for Change and over the second period of consultation for the Preliminary Decision. This section includes an overview as well as presentation of key themes and my responses.

Overview of Final Decisions

The final decision set forth in this document reflects the careful consideration of all feedback and alternative proposals over both the first and second consultation periods. A dominant theme in the feedback has been maintenance of the 'status quo', i.e. continue all existing teaching and research activities in their present location(s) and format(s). Alternative proposals focused on a modified version of the status quo, with emphasis on a reduction in UFA charges and other non-staff costs to achieve improved financial performance. Whilst I absolutely agree with the approach to prioritise opportunities to reduce non-staff costs (which is a component of the Final Decision), it is also important to consider the longer-term sustainability of our activities, how the college is aligned with University strategy, and is able to meet its commitments to the University's overall sustainability.

The college has maintained a "duality" of teaching and research activities on the Auckland and Manawatū campuses for more than 20 years, but this approach has not worked financially for the University – the college has never achieved budget targets and this situation cannot continue. Instead, the college must now align more closely with the University strategy (including Digital Plus Policy) and the key areas of work aligned with the Financial Recovery Plan (including reshaping academic footprint, management of low enrolment qualifications, specialisations and courses, and management of staffing levels) balancing its aspirations for teaching and research in a wide range of subjects with the fiscal realities of our current and expected future environmental circumstances.

I have not been able to identify a path forward that does not result in changes to our college's staffing levels. I do not believe we can maintain our existing activities only through the cutting of other operational costs. Moreover, we will not be able to contribute at a reasonable level to the operational costs of the wider University.

More specifically, with particular reference to the 'TEU alternative proposal' and a further proposal received during the second consultation period, the approaches do not enable SFAT and SNS to achieve the required financial outcomes, nor do they address the University's strategic objectives in the context of Digital Plus. These proposals have been discussed at several meetings with the TEU, in the context of endeavouring to reach agreement on the best way forward in addressing the college's challenges. I am grateful for these alternative scenarios being presented and acknowledge the effort that was put into developing these cases.

These alternative scenarios did suggest an improvement in the amount of margin over the present situation through a combination of retaining most of the current teaching and research activity with proposed substantial reductions in costs (UFA in particular). However, while the amount of margin in these scenarios would increase from the present situation, the projected margin (as a percentage and in absolute dollar terms relative to income) is well short of requirements. This is a critical factor in determining whether or not the continuation of internal teaching on two campuses is financially viable in the context of the Digital Plus Policy.

My analysis of the most recent alternative proposal would suggest that there would be a shortfall in required margin of approximately $6M and that there would only be an achieved margin of 11% of revenue. That shortfall in margin is significantly larger than the shortfall projected for the new school formed as an outcome of this final decision. The other schools and units in CoS would have to cover this shortfall on an ongoing basis and this is not a viable option. The other schools are operating within acceptable financial parameters, but this will not be the case should they be required to subsidise the operation of SFAT-SNS, to the detriment of teaching, learning and research activities in the college's other schools. Further, calls to cover this extent of shortfall in margin through growth are not achievable over the timescale within which we need to remedy the overall CoS's financial (and university's) financial situation. To illustrate this, remedying a shortfall of approximately $6M in required margin through growth in EFTS at a revenue of $24.8k per EFTS (the approximate average 2024 earning per EFTS across SFAT and SNS areas), with a 40% required teaching margin, would require approximately an additional 400 EFTS to the scenario presented (approximately a 40% increase to the EFTS in the scenario). Moreover, this approximately 40% growth in EFTS would have to take place with no additional costs (staff, consumables, facilities, or equipment). Consequently, while I very much support the approach to minimise the impacts on staffing, I cannot support these alternative proposals.

Therefore, my final decision is to consolidate teaching and research activities in food technology, ecology, zoology, molecular cell biology, and chemistry to the Manawatū campus, aligned with the University Digital Plus policy and strategic direction. In addition, the final decision is to close qualifications in engineering, supply chain management and quality systems.

However, as a result of considering the large volume of feedback over the two periods of consultation, I have made considerable changes to other aspects of the original Proposal for Change. Several operational units originally proposed to be discontinued will now be maintained, some discipline areas proposed to be discontinued will also now be maintained, staffing levels in some areas that were proposed to be reduced will now be either maintained at the current level or have the level of reduction decreased. These outcomes are summarised in the Table 1 below and detailed in the Proposal for Change: Final Decision presented herein.

Overall, whereas the original proposal for change proposed the disestablishment of 107 positions (95.9 FTE) and the Preliminary Decision proposed the disestablishment of 71 positions (66.6 FTE), this Final Decision announces the disestablishment of 67 positions (63.5 FTE).

I am extremely grateful for the feedback over the two periods of consultation that has led to a final decision with substantially fewer positions being disestablished compared to the original proposal, consistent with the aim of placing as many surplus staff as possible in alternate roles, and my overall aim being to minimise as much as possible the impact on staff.

Table 1. Comparison of the Proposal for Change, the Preliminary Decision, and this Final Decision showing changes as a result of consultation

Proposal for Change	Preliminary Decision	Final Decision	Commentary
Proposals affecting SFAT			
Discontinuation of all Engineering teaching and research at both the Auckland and Manawatū campuses	Proposed discontinuation unchanged	Discontinuation confirmed	Discontinuation confirmed as proposed.

Proposal for Change	Preliminary Decision	Final Decision	Commentary
Discontinuation of all Supply Chain Management qualifications at all locations	Proposed discontinuation unchanged	Discontinuation confirmed	Discontinuation confirmed as proposed.
Discontinuation of all Quality Systems qualifications at all locations	Proposed discontinuation unchanged	Discontinuation confirmed	Discontinuation confirmed as proposed.
Discontinue the BFoodTech(Hons) qualification on the Auckland campus	Proposed discontinuation unchanged	Discontinuation confirmed	Discontinuation confirmed as proposed.
Discontinue the Food Process Engineering specialisation in the BFoodTech(Hons) on the Manawatū campus. Maintain the BFoodTech(Hons) as a single-specialisation (Food Product Technology) qualification on the Manawatū campus.	Maintain the BFoodTech(Hons) on the Manawatū campus with two specialisations: Food Product Technology and Food Process Engineering.	Continue Food Process Engineering specialisation	Continuation of the Food Process Engineering specialisation on the Manawatū campus confirmed. Changed from the original proposal in response to feedback about the distinctive importance of Food Process Engineering and its efficiency in course sharing with Food Product Technology.
Continue the offshore delivery of the BFoodTech(Hons) qualification at SIT and Jiangnan University.	Proposed continuation unchanged	Continue as proposed	Continuation confirmed as proposed.
Discontinue the Master of Food Technology (MFoodTech) and PhD (Food Technology) qualifications at the Auckland campus	Proposed discontinuation unchanged	Proposed discontinuation unchanged	Discontinuation confirmed as proposed.
Maintain the MFoodTech, Master of Food Safety & Quality, Master of Dairy Science & Technology, and PhD in food-related areas on the Manawatū campus.	Proposed continuation unchanged	Continue as proposed	Continuation confirmed as proposed.
Replace the Diploma in Dairy Technology with a new Graduate Diploma in Dairy Science & Technology (start date to be determined).	Proposed replacement unchanged	Continue with replacement as proposed	Continuation with replacement confirmed as proposed.
Discontinue SFAT's contribution to nutrition teaching	Maintain nutrition staffing as per Table 8, with these positions reporting to the Food Technology Academic Management Group (AMG) in the proposed new school.	No change from Preliminary Decision	Changes from the original proposal were in response to feedback regarding the requirements for teaching in this area in the Food Technology qualifications.
Cease operation of the Intensive Animal Research Centre (otherwise known as SAPU) at the end of 2023	Cease operation in 2024 upon the completion of the contracted activities of the single external fee-paying research team.	Decision to close SAPU confirmed	Changes from the original proposal were in response to feedback regarding contractual obligations. The SAPU facilities will close on 17 May 2024.
Disestablish the Postharvest Engineering Unit on the Manawatū campus	Continue activities and staff positions in Postharvest Technology as per Table 8, with transfer to the School of	No change from Preliminary Decision	Changes from the original proposal were in response to feedback regarding the distinctive importance of this group, its integration into the Food Technology curriculum,

Proposal for Change	Preliminary Decision	Final Decision	Commentary
	Agriculture & Environment (SAE) to strengthen alignment with Horticulture and Plant Science.		opportunities for strengthened integration with Horticulture and Plant Science, and mechanisms by which it could become financially sustainable.
Disestablish specialist IT support in SFAT	Maintain specialist IT support positions as per Table 8, with transfer of these positions to the PVC CoS Office, reporting to the College Academic Manager.	The IT staff will report to the Deputy PVC in the College Office.	Changes in response to feedback regarding ongoing IT requirements and risk to teaching and other activities if IT capability is lost. There will be a need for further review of IT support requirements as central ITS develops its future plans. Change in reporting line from that proposed in the preliminary decision: the IT Group will now report to the DPVC to align IT support across the CoS.
Proposed technician SSRs of • 55 for Food Technology, Chemistry and Molecular Cell Biology • 90 for Ecology and Zoology.	Technician SSRs of • 45 for Food Technology, Chemistry and Molecular Cell Biology, and Ecology and Zoology	Technical staff SSRs will not be implemented in this final decision. The final decision on technician staff levels in the different areas has been reached after consideration of further feedback during consultation on the Preliminary Decision.	Changes in response to feedback regarding workload as well as health and safety demands across these areas.
Proposed staffing outcomes for SFAT			
SFAT Category A: Positions for which no significant or minor change is proposed 23.1 FTE (29 headcount) staff hold positions where there is no significant change proposed. Of those, two are based in Singapore, and one is co-located in New Zealand and China. The remainder are based in Manawatū.	SFAT Category A: Positions for which no significant or minor change is proposed 36.5 FTE (46 headcount) staff hold positions where there is no significant change proposed. Of those, two are based in Auckland (0.6 FTE), two are based in Singapore (2.0 FTE), and one is co-located in New Zealand and China (1.0 FTE). The remainder are based in Manawatū. Increased staff with no significant change as per Table 8.	SFAT Category A: A total of 34.7 FTE (45 headcount) positions for which there will be no significant or minor change. Of those, two are based in Auckland (1.0 FTE), two are based in Singapore (2.0 FTE), and one is co-located in New Zealand and China (1.0 FTE). The remainder are based in Manawatū.	Consequence of all other reconsiderations in response to feedback. There are 11.6 FTE (16 headcount) more positions in Category A in the final decision compared to the original proposal. Some fixed term positions completed between the release of the original proposal and the preliminary decision, and then between the release of the preliminary decision and this final decision and no longer contribute to these totals.
SFAT Category B: Positions which are proposed to be disestablished 49.7 FTE (56 headcount) positions would be disestablished. Of these, 18.5 FTE (20 headcount) are based in Auckland, 30.2 FTE (35 headcount) in the Manawatū, with the remaining 1.0 FTE staff	SFAT Category B: Positions which are proposed to be disestablished 35.3 FTE (38 headcount) positions would be disestablished. Of these, 18.5 FTE (20 headcount) are based	SFAT Category B: A total of 32.3 FTE (34 headcount) positions that will be disestablished. Of these, 17.5 FTE (18 headcount) are based in Auckland, 13.8 FTE (15 headcount) in the Manawatū, with the	Consequence of all other reconsiderations in response to feedback. There are 17.4 FTE (22 headcount) fewer positions in Category B in the final decision compared to the original proposal. Some fixed term positions completed between the release

Proposal for Change	Preliminary Decision	Final Decision	Commentary
member co-located between New Zealand and China.	in Auckland, 14.8 FTE (16 headcount) in the Manawatū, with the remaining 1.0 FTE staff member co-located between New Zealand and China. Fewer disestablished staff as per Table 9.	remaining 1.0 FTE staff member co-located between New Zealand and China. Fewer disestablished staff as per Table 9.	of the original proposal and the preliminary decision, and then between the release of the preliminary decision and this final decision and no longer contribute to these totals. Two linked positions (1.0 FTE) in Food Technology at Auckland that includes the offshore delivery leadership function have moved from Category B in the preliminary position to Category A in the final decision as the new Offshore Delivery Leader position (1.0 FTE) (the new position was previously in Category C in the preliminary decision).
SFAT Category C: New positions Four new positions would be created involving 4.0 FTE.	SFAT Category C: New positions Six new positions would be created involving 6.0 FTE. Increased new positions as per Table 10.	SFAT Category C: New positions Five new positions will be created involving 5.0 FTE.	Consequence of all other reconsiderations in response to feedback. One of the new positions proposed in the preliminary decision has been removed as two positions have moved from Category B to Category A in the final decision. There is 1.0 FTE (1 headcount) more positions in Category C in the final decision compared to the original proposal.
Proposals affecting SNS			
Discontinue at the Auckland campus the BSc Molecular Cell Biology, Ecology and Conservation, and Zoology majors and the related postgraduate Biological Sciences, Conservation Biology, Ecology and Zoology specialisations in the PGDipScTech and the MSc, and PhD research in the related areas.	Proposed discontinuation unchanged	Discontinuation confirmed	Discontinuation confirmed as proposed.
Maintain at the Manawatū campus the BSc Molecular Cell Biology, Ecology and Conservation, and Zoology majors and the related postgraduate Biological Sciences, Conservation Biology, Ecology and Zoology specialisations in the PGDipScTech and the MSc, and PhD research in the related areas.	Proposed continuation unchanged	Continuation confirmed as proposed. One additional academic staff position (0.5 FTE) in recognition of workload and leadership of the course 162101 Cell Biology on the Manawatū campus.	Continuation confirmed as proposed. Feedback identified the role of an individual in leadership and delivery of the course 162101 Cell Biology on the Manawatū campus.
Maintain the BSc Microbiology specialisation, and PhD research in the related areas at the Manawatū campus	Proposed continuation unchanged	Continuation as proposed	Continuation confirmed as proposed.
Discontinue the BSc Plant Science specialisation, the PGDipScTech and MSc Plant	Maintain the BSc Plant Science specialisation, the	Per the Preliminary Decision, with the relocation of Plant	Changes in response to feedback about the distinctive importance of this discipline in NZ and scope

Proposal for Change	Preliminary Decision	Final Decision	Commentary
Breeding specialisations, and PhD research in the related areas	PGDipScTech and MSc Plant Breeding specialisations, and PhD research in the related areas with delivery based on the Manawatū campus. Continue activities and staff positions as per Table 11 with transfer of activities and staff positions to SAE (Agriculture reporting line) to strengthen alignment with Horticulture and Postharvest Technology.	Science staff and activities to the School of Agriculture and Environment (SAE).	for fully integrating the specialisations into the wider area of horticultural science. Full integration of the Plant Sciences with Horticulture will be achieved more effectively through co-location of activities and staff in SAE. There will be consultation with the SAE Head of School on the within-school organizational alignment of Plant Science (and Postharvest Technology) with Horticulture.
Maintain the BSc Chemistry, MSc Chemistry and related PhD research at the Manawatū campus	Proposed continuation unchanged	Continuation as proposed	Continuation confirmed as proposed.
Discontinue the operation of the MMIC on the Manawatū campus.	Continue the operation and staffing as per Table 11 of the MMIC on the Manawatū campus with this unit reporting to the PVC CoS Office.	Continuation confirmed as proposed.	Changes in response to feedback regarding ongoing demand and the opportunity for remediating the financial performance of MMIC through reviewing cost and revenue structures.
Discontinue the operation of the Massey Genome Service unit on the Manawatū campus.	Continue the operation and staffing as per Table 11 of the Massey Genome Service unit on the Manawatū campus with this unit reporting to the PVC CoS Office.	Continuation confirmed as proposed.	Changes in response to feedback regarding ongoing internal and external demand for services, and opportunities for revenue growth.
Discontinue the 100-level Plant Science course 120101 Plant Biology on the Auckland campus	Proposed discontinuation unchanged	Discontinuation confirmed	Discontinuation confirmed as proposed.
Discontinue the 100-level Plant Science course 120101 Plant Biology on the Manawatū campus.	Maintain the delivery of the 100-level Plant Science course 120101 Plant Biology on the Manawatū campus.	Continuation confirmed as proposed.	Changed as a consequence of the preliminary decision to retain Plant Science teaching at Manawatū.
Discontinue internal offerings of the 100-level Chemistry courses on the Auckland campus. The qualifications and specialisations managed by the College of Health utilizing that course would be serviced through a Distance offering delivered from the Manawatū campus.	Proposed discontinuation unchanged	Proposed discontinuation unchanged	Discontinuation confirmed as proposed.

Proposal for Change	Preliminary Decision	Final Decision	Commentary
Discontinue the 200-level Chemistry courses 123201 Chemical Energetics and 123271 Molecules to Materials on the Auckland campus	Proposed discontinuation unchanged	Proposed discontinuation unchanged	Discontinuation confirmed as proposed.
Discontinue the 100-level Physics course 124104 Physics 1A: Mechanics and Thermodynamics on the Auckland campus	Proposed discontinuation unchanged	Proposed discontinuation unchanged	Discontinuation confirmed as proposed.
Discontinue the 100-level Physics course 124104 Physics 1A: Mechanics and Thermodynamics on the Manawatū campus and replace it in the schedule for the BFoodTech(Hons) with 124103 Biophysical Principles	Proposed discontinuation unchanged	Offer 124104 Physics 1A: Mechanics and Thermodynamics on the Manawatū campus during 2024 on an interim basis while an evaluation of the curriculum required across the BFoodTech(Hons) to meet the approval requirements for the Institute of Food Technologists (IFT) takes place.	Feedback identified the IFT guidelines for approval of food science and food technology qualifications (see: https://www.ift.org/community/educators/ift-undergraduate-program-approval). The general physics requirements are to be mapped against courses across the 4-year BFoodTech(Hons) qualifications with a view to revise courses to ensure that these requirements are met. Consideration will be given to the academic staffing that will be needed on a fixed term basis to support the interim delivery of this course in Semester One of 2024.
Discontinue the 100-level Physics course 124105 Physics 1B: Electricity, Waves and Modern Physics on both the Auckland and Manawatū campus	Proposed discontinuation unchanged	Proposed discontinuation unchanged	Discontinuation confirmed as proposed.
Discontinue the 100-level course 162101 Cell Biology on the Auckland campus. The qualifications and specialisations managed by the College of Health utilizing that course would be serviced through a Distance offering delivered from the Manawatū campus.	Proposed discontinuation unchanged	Proposed discontinuation unchanged	Discontinuation confirmed as proposed.
Discontinue the 100-level courses 199103 Animals and the Environment and the Ecology course 196101 Ecology, Evolution and Behaviour on the Auckland campus	Proposed discontinuation unchanged	Proposed discontinuation unchanged	Discontinuation confirmed as proposed.
Discontinuation of the Cetacean Ecology Research Group	Proposed continuation of the Cetacean Ecology Research Group	Continuation confirmed as proposed.	Continuation confirmed in response to the substantial feedback received regarding the work of the Cetacean Ecology Research Group, and the risks to important partnerships with hapū and iwi in relation to shared kaupapa involving taonga species. In addition, there was concern about how the secure

Proposal for Change	Preliminary Decision	Final Decision	Commentary
			storage of taonga species, archive material and research from the Ngā Tahu takiwā would continue to be kept safe and stored in culturally appropriate and modern facilities.
Proposed staffing outcomes for SNS			
SNS Category A: Positions for which no significant or minor change is proposed. 51.4 FTE (60 headcount) positions for which no significant change is proposed. Of those, 7.5 FTE (10 headcount) are based in Auckland, the remaining 43.9 FTE (50 headcount) are based in the Manawatū.	SNS Category A: Positions for which no significant or minor change is proposed. 66.4 FTE (78 headcount) positions for which no significant change is proposed. Of those, 8.6 FTE (11 headcount) are based in Auckland, the remaining 57.9 FTE (67 headcount) are based in the Manawatū. Increased staff with no significant change as per Table 11.	SNS Category A: A total of 66.5 FTE (78 headcount) positions for which there will be no significant or minor change. Of those, 8.7 FTE (11 headcount) are based in Auckland, the remaining 57.8 FTE (67 headcount) are based in the Manawatū.	Consequence of all other reconsiderations in response to feedback. There are 15.1 FTE (18 headcount) more positions in Category A in the final decision compared to the original proposal. Some fixed term positions completed between the release of the original proposal and the preliminary decision, and then between the release of the preliminary decision and this final decision and no longer contribute to these totals.
SNS Category B: Positions which are proposed to be disestablished 46.2 FTE (51 headcount) positions are proposed to be disestablished. Of these, 23.1 FTE (25 headcount) are based in Auckland, 23.1 FTE (17 headcount) in the Manawatū.	SNS Category B: Positions which are proposed to be disestablished 31.3 FTE (34 headcount) positions are proposed to be disestablished. Of these, 22.1 FTE (24 headcount) are based in Auckland, 9.2 FTE (10 headcount) in the Manawatū. Fewer disestablished staff as per Table 12.	SNS Category B: A total of 31.2 FTE (33 headcount) positions that will be disestablished. Of these, 23.0 FTE (24 headcount) are based in Auckland, 8.2 FTE (9 headcount) in the Manawatū.	Consequence of all other reconsiderations in response to feedback. There are 15.0 FTE (18 headcount) fewer positions in Category B in the final decision compared to the original proposal. Some fixed term positions completed between the release of the original proposal and the preliminary decision, and then between the release of the preliminary decision and this final decision and no longer contribute to these totals. One position (1.0 FTE) was moved from Category B in the preliminary decision to Category A in the final decision in recognition of the need to maintain a senior technical staff member to retain both workload and health and safety requirements, and to provide on-going leadership of technical staff in the delivery of laboratory courses.
SNS Category C: Reduction in number/FTE of existing positions of the same or similar type 2.6 FTE (3 headcount) positions would be reduced to 2.0 FTE in the Manawatū.	No reduction in number/FTE of existing positions of the same or similar type	No reduction in number/FTE of existing positions of the same or similar type	Consequence of all other reconsiderations in response to feedback

Proposal for Change	Preliminary Decision	Final Decision	Commentary
SNS Category D: New positions 5 new positions would be created involving 4.0 FTE.	SNS Category C: New positions 5 new positions would be created involving 5.0 FTE, with the further consideration of an additional technical position (1.0 FTE) should the Preliminary Decision proceed in the current form. Increased new positions as per Table 13.	SNS Category C: New positions Six new positions will be created involving 5.5 FTE. Increased new positions as per Table 13.	Consequence of all other reconsiderations in response to feedback. One of the new Senior Technician positions proposed in the preliminary decision has been removed as one position has moved from Category B to Category A. A further 1.5 FTE (2 headcount) of new Senior Technician positions will be created in response to feedback identifying the need for additional technical staff FTE to meet workload and health and safety requirements.
Proposed new school and reporting lines			
The maintained parts of SNS and SFAT are merged to form a new College of Sciences school on the Manawatū campus with the temporary title of School of Food Technology and Natural Sciences (SFTNS).	Proposed formation of a new school unchanged	Proposed formation of a new school unchanged. Name of the new school confirmed as the School of Food Technology and Natural Sciences (SFTNS).	Formation of new school confirmed with effect 3 April 2024.
There would be renaming of some Academic Management Groups to align with reporting lines: • The Chemistry AMG would remain, but incorporate the 100-level undergraduate laboratory teaching activity for 124103 Biophysical Principles (the only Physics course that will be maintained should the proposal changes be implemented) • The Ecology, Conservation and Marine Biology AMG would be renamed Ecology and Conservation; • Molecular and Cellular Biology & Microbiology would retain that name; • Zoology AMG would retain that name; and • The Food, Safety and Quality, Dairy Science & Technology and Nutrition AMG would be renamed as the Food Technology AMG.	The renaming of Academic Management Groups is unchanged except for the following change: • The Ecology, Conservation and Marine Biology AMG would merge with the Zoology AMG to form the Zoology and Ecology AMG	The renaming of the Academic Management Groups proposed in the preliminary decision is confirmed, and these will align with the reporting lines in the new school.	Changed in response to feedback about the integration of teaching and research between these groups, and recognition of the need to align with reporting lines in the new school.
The following reporting lines would transfer to SFTNS: • The current SNS Chemistry and Physics reporting line would be renamed 'Chemistry' inclusive of the 0.5 FTE Technician in Physics;	The transfer of reporting lines to SFTNS is unchanged except for the following change: • The current SFAT Food Pilot reporting	The reporting line for the FoodPilot is confirmed as reporting to the PVC's Office.	Changed in response to feedback from the FoodPilot after the original proposal to support strategic direction and remediating financial performance. Feedback received after the preliminary decision requested that the FoodPilot

Proposal for Change	Preliminary Decision	Final Decision	Commentary
• The current SNS Molecular Biosciences reporting line; • The current SNS Zoology and Ecology reporting line; • The current SFAT Food Technology reporting line and constituent teams (Food Product Technology and Food Manufacturing Technology); • The current SFAT FEAST reporting line would become a team in the Food Technology reporting line; • The current SFAT Food Pilot reporting line; and • The current SFAT Nutrition Lab reporting line.	line is changed to the PVC CoS Office		report to the new school. The final decision to have the FoodPilot report to the PVC's Office was based on the need to remediate the financial and operational performance. A Service Level Agreement will be established to clearly articulate the role of FoodPilot in the support of student learning and research.
That a new 'Operational Services' reporting line would be formed comprising those currently reporting to the Head of School of SNS in • the Mechanical Workshop, • the Electronics Workshop, and • the proposed 1.0 FTE in purchasing.	A new 'Operational Services Group' reporting line would be formed comprising those currently reporting to the Head of School of SNS in • the Mechanical Workshop, • the Electronics Workshop, • the Research and Teaching Laboratories coordinators, and • the Purchasing Officer and Purchasing Technician positions. One position from the Engineering Workshops in SFAT is also to change reporting line to the Operational Services Group.	The new 'Operational Services Group' is confirmed in the final decision. One additional technical staff position (1.0 FTE) has moved from Category B in the preliminary decision to Category A in this group to support the operation of the autoclave facilities.	Changed in response to feedback about technical staffing requirements. Additional technical staff FTE has been included in this group in response to feedback on the workload associated with the operation of the autoclave facilities.
The MAF Digital Lab budget centre is to be renamed as 'Contract Research Unit' and: • Those in the current MAF Digital Lab would remain in the renamed budget centre; • Those in the current Biotechnology Group would move to the Contract Research Unit reporting line; and • The Contract Research Unit reporting line would report to the College of Sciences PVC's Office.	Proposed changes in names and reporting lines unchanged.	Proposed changes in names and reporting lines unchanged.	
Overall staffing changes proposed			

Proposal for Change	Preliminary Decision	Final Decision	Commentary
74.5 FTE (89 headcount) positions for which no significant change was proposed, or there would be a possible change of reporting line but no significant change to the position. 95.9 FTE (107 headcount) positions would be disestablished. Three similar positions (2.6 FTE) would be reduced to two, with the disestablishment of 0.6 FTE (2.6 FTE reduced to 2.0 FTE). Nine new positions (8.0 FTE) would be created.	102.9 FTE (124 headcount) positions for which no significant change was proposed, or there would be a possible change of reporting line but no significant change to the position. 66.6 FTE (72 headcount) positions would be disestablished. Eleven new positions (11.0 FTE) would be created.	There are 101.2 FTE (123 headcount) positions for which there will be no significant change, or there will be a change of reporting line but no significant change to the position. 63.5 FTE (67 headcount) positions will be disestablished. Eleven new positions (10.5 FTE) will be created.	Consequence of all other reconsiderations in response to feedback. Overall there will be: • 26.7 FTE (34 headcount) more positions for which there will be no significant change, or there will be a change of reporting line but no significant change to the position; and • 32.4 FTE (40 headcount) fewer positions that will be disestablished; and • 3.5 FTE (3 headcount) more positions that will be created; in the final decision compared to the original proposal. Some fixed term positions completed between the release of the original proposal and the preliminary decision, and then between the release of the preliminary decision and this final decision and no longer contribute to these totals.
Provisions for teachout of students in affected qualifications			
Undergraduate students in affected qualifications at Auckland assisted with choice of • transferring to a distance offering or Manawatū campus offering of the same or a closely related qualification where applicable from 2024 • transferring any completed credits to another institution from 2024	Provisions for teachout unchanged except for increased provision for limited teachout for students in BE(Hons) year 4 and the distance offered GDipL&SCM. Fixed term appointments will be made to provision this teachout.	Proposed provisions for teachout unchanged from the preliminary decision.	Changed in response to feedback from students and staff. The financial situation has restricted the amount of teachout that can be offered. Provisions are focussed on supporting student groups with the fewest options for completion without teachout and where teachout can be accomplished within a constrained financial envelope.
Undergraduate students in affected qualifications at Manawatū assisted with choice of • transferring to another Massey University qualification from 2024 • transferring any completed credits to another institution from 2024	Provisions for teachout unchanged except for increased provision for limited teachout for students in BE(Hons) year 4. Fixed term appointments will be made to provision this teachout.	Proposed provisions for teachout unchanged from the preliminary decision	
Postgraduate students completing thesis courses in subjects that are being proposed to be discontinued at the Auckland campus would be supported to complete with continued supervision provided primarily from Manawatū staff, with co-supervision for pastoral support provided by Auckland-based staff from other discipline areas as needed.	Provisions for teachout of students completing thesis courses unchanged. Increased provision for limited teachout for students completing 700 level courses in MEngSt, MFoodTech, PGDipQS, MQS, PGDipSCM, and	Proposed provisions for teachout unchanged from the preliminary decision	

Proposal for Change	Preliminary Decision	Final Decision	Commentary
	MSCM. Fixed term appointments will be made to provision this teachout.		
Postgraduate students completing thesis courses in subjects that are being proposed to be discontinued at the Manawatū campus would be supported to complete by Manawatū staff.	Provisions for teachout of students completing thesis courses unchanged. Increased provision for limited teachout for students completing 700 level courses in MEngSt. Fixed term appointments will be made to provision this teachout.	Proposed provisions for teachout unchanged from the preliminary decision	

Updated Proposal for Change incorporating Final Decisions

1. Introduction and Background

The significant financial challenges faced by Massey University and the College of Sciences (CoS) have been communicated to staff during the period May – August 2023. The University is forecasting an operating deficit of approximately $56M for 2023 and the projected deficit in the CoS is a significant contributor to the University financial shortfall.

In early July 2023, the Vice-Chancellor delegated full authority to the CoS Pro Vice-Chancellor (PVC) to ensure that the college is operating in accordance with the University's financial expectations – and to achieve this goal in advance of 2024. This delegation included authority to grant Voluntary Enhanced Cessation (VEC) and implement other changes in operations to ensure the college is in a financially sustainable position. On 12 July 2023, I provided the opportunity for staff to express an interest in a VEC package to potentially exit the University's employment. I am grateful to those individuals who have chosen to leave the University as part of the VEC offer as the resulting decrease in staff numbers (20 Full Time Equivalent [FTE] of technical and academic staff, representing approximately $2M in General Ledger [GL] salary costs) will help to mitigate the CoS operating deficit in 2024.

It is noted that a mix of permanent and short-term increases in Tertiary Education Commission (TEC) funding will contribute approximately $6M of additional revenue to the University for 2024 and 2025, providing that target student enrolments are achieved. The college's share of that potential additional revenue is of the order of $1.5M for each of those years. However, even after considering the potential impact of the increase in TEC funding and the salary savings from the VEC programme, it is evident that the CoS will sustain a large operating deficit (approximately $8.1M) in 2024 in the absence of actions to decrease costs or achieve further increases in revenue.

This is certainly the most challenging financial situation that this college has ever faced, and it is now imperative that changes are made to ensure that the college (and University) are in a financially sustainable position. I am committed to being transparent and open with the CoS in respect to the challenges we are facing and to ensure that our college is fit for the future to support our core mission of teaching, learning and research.

Since the release of the original Proposal for Change on 2 October 2023 the following actions have taken place with respect to the financial analysis:

- The incorrect attributions of UFA for SFAT and SNS in the IC Building on the Auckland campus have been corrected;
- The college and school 2023 financial forecasts have been reviewed and updated as part of the October formal forecast round with input from the University's Finance Team and the College Senior Finance Business Partner;
- A number of revisions have been made to the attribution of costs and revenues to AMGs and campuses within SFAT and SNS;
- The college and school 2024 financial projections for a 'business as usual' case have been developed between the Finance Team and the College Office;
- The attribution of forecast (for 2023) and projected (for 2024) costs and revenues to AMGs and campuses within SFAT have been reviewed by the Finance Team; and
- The key 2023 and 2024 financial data has been presented to PwC NZ for an independent review of the methodologies and assumptions used to prepare the financial information referred to above and included in the Proposal for Change.

PwC's report was received on 24 November 2023 and states that:

- The attribution to AMGs and campuses were reasonable proxies for allocation as intended; and
- There were no material issues with the calculations underlying the financials. Any areas identified for improvement would not materially impact the amounts / values.

College Financial Context

The majority (>95%) of the college's activity is in the delivery of academic programmes, research, and trading activities undertaken at school-level (our 'academic delivery'). This includes work in the NZ Institute of Advanced Studies (NZIAS).

The college's financial issues have been long-term but have progressively become more problematic. Table 2 summarises financial performance for the college's academic delivery across the six schools and NZIAS for 2022 and the forecast position for 2023.

Table 2. 2022 final financials, the forecast for 2023, and projections for 2024 for CoS' academic delivery across the six schools and the NZIAS.

Category	2022 Full Year	2023 Forecast	2024 Projected
Income	153,821,916	169,722,245	178,726,260
Expenses	120,066,474	134,641,804	138,522,769
Margin	33,755,442	35,080,441	40,203,492
Expected Margin	42,967,595	45,533,560	48,258,179
Shortfall in Margin	(9,212,153)	(10,453,118)	(8,054,687)

This high-level summary of the college's academic delivery indicates that the 2023 income is forecast to increase by approximately 10.3% relative to 2022, while our costs are forecast to increase by approximately 12.1%. This impacts on our ability to deliver the required margin and contributes to the shortfall in margin contribution for academic delivery increasing from approximately $9.2M in 2022 to a forecast of approximately $10.5M in 2023. While there is projected to be a welcome increase in funding per EFTS in 2024 (approximately by 9%), and there will be an approximately $2M decrease in costs associated with the VEC outcome, the projected shortfall in margin contribution for 2024 of ~$8.1M will remain unacceptably high. In the absence of further increases in funding per EFTS, or substantial reductions in costs, the year-on-year increases in operating costs would ensure that the college would experience shortfalls in margins in excess of $10M by 2025.

Table 3 provides details on the 2023 forecast (based on the 10 months ending 31 October 2023), and Table 4 provides the details of the projected 2024 financials at the operational unit level for the six schools and the NZIAS.[1] Table 17 in the Appendix provides the comparable 2022 data.

Amongst the six schools and one institute providing the college's academic delivery:

- The School of Agriculture & Environment (SAE) and School of Mathematical & Computational Sciences (SMCS) are forecast to exceed the required margin in each of 2023 and 2024;
- The School of Built Environment (SBE) is forecast to miss the required margin by approximately $366k in 2023 and by approximately $470k in 2024;

[1] These data are based on the financial forecast set earlier in 2023 together with revisions associated with additional revenues from higher-than-expected enrolments in Semester Two 2023 and a reforecasting of research revenue and expenditure.

- NZIAS is forecast to miss the required margin by approximately $32k and by approximately $16k in 2024;
- The School of Veterinary Science (SVS, which includes the Veterinary Teaching Hospital) is forecast to miss the required margin by approximately $564k but then exceed the required margin by $712k in 2024;
- The School of Food & Advanced Technology (SFAT) is forecast to miss the required margin by approximately $4.5M in 2023 and by approximately $3.7M in 2024; and
- The School of Natural Sciences (SNS) is forecast to miss the required margin by approximately $7.7M in 2023 and by approximately $7.1M in 2024.

It is noted that the expected teaching margin differs from school to school. In the case of SVS, the expected teaching margin has been set at 30% through a University-level decision-making process.[2] The expected teaching margins for the other Schools have been set at college-level through consideration of the current funding rates and the operational costs for delivering each subject area (physical infrastructure, consumables, equipment etc.). The outcome is that there is a range of expected margins per Equivalent Full Time Student (EFTS) with approximate values for the 2023 forecast: $15.8k/EFTS for SVS,[3] $14.5k for SBE, $12.5k for SAE, $9.8k for SMCS, $10.5k for SFAT, and $9.0k for SNS (this ratio is not reported for NZIAS given that it has fewer than 10 EFTS and is primarily focused on delivery of zero-margin research activities).

[2] That figure arising from a combination of the recently revised TEC funding rates, a fixed SSR for the BVSc (accreditation requirements), and a decision that the University will subsidise the BVSc to some extent until further revisions in TEC funding rates arise.

[3] It is noted that even though the University will subsidise the BVSc to some extent, SVS is forecast to return the highest margin per EFTS across CoS schools.

Table 3. Forecast income, expenditure and margin for 2023 for CoS' six schools and the NZIAS, together with expected margin, and shortfall in margin, based on the expected percentage contributions for each of teaching, research and trading revenue.

School	SAE	SVS (inc. VTH)	SBE	SMCS	SFAT	SNS	NZIAS	Sub-Total for CoS Academic
Income								
Teaching Income								
Total Teaching Income	17,850,200	31,535,555	12,153,679	14,030,722	11,725,120	14,615,438	153,867	102,064,580
Research Income								
PBRF Income	4,573,421	3,840,570	463,842	1,386,237	4,292,940	3,802,162	487,980	18,847,153
Forecast of income from Research Grants	13,811,894	5,371,446	1,852,684	2,521,043	4,248,876	5,833,875	1,429,221	35,069,040
Total Research Income	18,385,315	9,212,016	2,316,526	3,907,281	8,541,817	9,636,037	1,917,201	53,916,193
Trading Income								
Total Trading Income	2,203,660	7,754,178	(50,165)	2,143,342	1,069,703	437,755	183,000	13,741,473
Total Income	38,439,176	48,501,749	14,420,040	20,081,345	21,336,639	24,689,230	2,254,068	169,722,245
Expenses								
Academic Staff Related Expenses	10,302,600	12,145,632	3,632,091	6,387,470	7,175,149	9,400,558	1,345,128	50,388,627
Technical Staff Related Expenses	1,598,472	5,919,878	56,285	-	1,687,106	2,479,582	-	11,741,323
Professional Staff Related Expenses*	759,396	2,138,826	142,315	354,867	983,909	640,156	123,421	5,142,889
Asset Related Expenses	179,602	745,826	56,667	59,672	120,858	259,853	-	1,422,478
Depreciation	542,752	691,729	33,264	66,975	1,067,064	1,193,528	29,200	3,624,512
Consumables	2,092,496	2,818,641	203,081	159,670	466,484	1,427,620	10,200	7,178,192
Travel	640,376	315,526	182,258	249,277	342,902	266,384	98,350	2,095,073
Contracted Services	2,092,496	702,229	570,327	580,671	323,938	961,953	56,798	5,288,412
Scholarships - Stipends & Fees	3,198,533	700,201	323,993	378,788	974,001	977,427	272,200	6,825,143
Other Direct Expenses	1,255,965	3,734,927	327,738	144,535	307,323	208,533	24,263	6,003,284
UFA Charges	2,584,491	5,267,098	547,878	916,622	6,117,557	6,321,707	19,466	21,774,818
Other Overhead Recoveries	2,548,906	3,469,149	180,015	1,017,624	967,161	1,889,486	210,646	10,282,987
PVC Office cost attribution	566,778	892,503	143,854	227,662	527,466	481,243	34,560	2,874,066
Total Expenses	28,362,863	39,542,163	6,399,766	10,543,832	21,060,918	26,508,030	2,224,232	134,641,804
Total Margin	10,076,313	8,959,586	8,020,273	9,537,513	275,721	(1,818,800)	29,836	35,080,441
Margin as % of Income	26%	18%	56%	47%	1%	(7%)	1%	21%
Expected Margin	8,208,883	9,523,738	8,386,038	8,675,634	4,818,412	5,859,308	61,547	45,533,560
Shortfall in Margin	**1,867,430**	**(564,152)**	**(365,765)**	**861,879**	**(4,542,691)**	**(7,678,108)**	**(31,711)**	**(10,453,118)**
Shortfall as % of Academic & Technical Staff Related Expenses	(16%)	3%	10%	(13%)	51%	65%	2%	17%
Shortfall as % of UFA Charges	(72%)	11%	67%	(94%)	74%	121%	163%	48%
Shortfall as % of UFA Charges and Staff Related Expenses	(13%)	2%	9%	(12%)	30%	42%	2%	12%
Expected Margin % by Activity								
Teaching	45%	30%	69%	60%	40%	40%	40%	
Research	0%	0%	0%	0%	0%	0%	0%	
Trading	8%	0%	0%	12%	12%	3%	0%	

* To be transferred for the most part to the PVC's Office in 2024. When this occurs, there will be an adjustment in the PVC Office cost attribution.

Table 4. Projected income, expenditure and margin for 2024 for CoS' six schools and the NZIAS, together with expected margin, and shortfall in margin, based on the expected percentage contributions for each of teaching, research and trading revenue.

School	SAE	SVS (inc. VTH)	SBE	SMCS	SFAT	SNS	NZIAS	Sub-Total for CoS Academic
Income								
Teaching Income								
Total Teaching Income	**18,728,173**	**35,626,645**	**12,631,638**	**13,864,509**	**12,791,531**	**15,660,638**	**154,715**	**109,457,848**
Research Income								
PBRF Income	4,573,421	3,840,570	463,842	1,386,237	4,292,940	3,802,162	487,980	18,847,153
Forecast of income from Research Grants	14,267,686	5,548,704	1,913,823	2,604,238	4,389,089	6,026,393	1,476,385	36,226,318
Total Research Income	18,841,107	9,389,274	2,377,665	3,990,475	8,682,030	9,828,555	1,964,366	55,073,471
Trading Income								
Total Trading Income	2,276,381	8,010,066	(51,820)	2,214,072	1,105,003	452,201	189,039	14,194,941
Total Income	39,845,661	53,025,984	14,957,482	20,069,057	22,578,563	25,941,393	2,308,119	178,726,260
Expenses								
Academic Staff Related Expenses	10,508,124	12,728,622	3,806,432	6,570,366	6,623,867	8,673,354	1,350,517	50,261,282
Technical Staff Related Expenses	1,493,890	6,204,032	58,987	-	1,376,073	2,486,422	-	11,619,404
Professional Staff Related Expenses*	795,847	2,241,489	149,146	371,900	1,031,137	670,883	129,345	5,389,747
Asset Related Expenses	185,529	770,438	58,537	61,641	124,846	268,428	-	1,469,420
Depreciation	560,663	714,556	34,362	69,185	1,102,277	1,232,914	30,164	3,744,121
Consumables	2,161,548	2,911,656	209,783	164,939	481,878	1,474,732	10,537	7,415,073
Travel	661,509	325,938	188,273	257,503	354,218	275,175	101,596	2,164,210
Contracted Services	2,161,548	725,402	589,148	599,833	334,628	993,697	58,672	5,462,929
Scholarships - Stipends & Fees	3,304,085	723,308	334,685	391,288	1,006,143	1,009,682	281,183	7,050,372
Other Direct Expenses	1,297,412	3,858,180	338,553	149,305	317,465	215,414	25,064	6,201,392
UFA Charges	2,861,031	5,830,677	606,501	1,014,700	6,772,136	6,998,130	21,549	24,104,724
Other Overhead Recoveries	2,633,020	3,583,631	185,955	1,051,206	999,077	1,951,839	217,598	10,622,326
PVC Office cost attribution	595,117	937,128	151,047	239,045	553,840	505,305	36,288	3,017,769
Total Expenses	29,219,322	41,555,057	6,711,408	10,940,911	21,077,584	26,755,975	2,262,511	138,522,769
Total Margin	10,626,339	11,470,927	8,246,075	9,128,145	1,500,979	(814,582)	45,608	40,203,492
Margin as % of Income	27%	22%	55%	45%	7%	(3%)	2%	22%
Expected Margin	8,609,788	10,759,247	8,715,830	8,584,394	5,249,213	6,277,821	61,886	48,258,179
Shortfall in Margin	**2,016,551**	**711,680**	**(469,755)**	**543,751**	**(3,748,233)**	**(7,092,403)**	**(16,278)**	**(8,054,687)**
Shortfall as % of Academic & Technical Staff Related Expenses	(17%)	(4%)	12%	(8%)	47%	64%	1%	13%
Shortfall as % of UFA Charges	(70%)	(12%)	77%	(54%)	55%	101%	76%	33%
Shortfall as % of UFA Charges and Staff Related Expenses	(14%)	(3%)	11%	(7%)	25%	39%	1%	9%
Expected Margin % by Activity								
Teaching	45.0%	30.2%	69.0%	60.0%	40.0%	40.0%	40.0%	
Research	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Trading	8.0%	0.0%	0.0%	12.0%	12.0%	3.0%	0.0%	

It is evident that the majority of the 2023 projected financial shortfall for the college's academic delivery of approximately $10.5M is across SFAT and SNS, and this is projected to be the case also in 2024. Note that the net shortfall in margin for each of 2023 and 2024 is less that the total in shortfall in margin across SFAT and SNS ($12.2M forecast for 2023 and $10.8M projected for 2024 for the two schools combined) due to SAE and SMCS contributing higher than required margins (by $2.7M forecast for 2023) and SAE, SMCS and SVS projected to contribute higher than required margins collectively by $3.3M in 2024.

This provides the rationale for SFAT and SNS being the areas for focus of financial attention at this time. The situation in these two schools is an ongoing one. In 2022, both schools were major contributors to the college's overall margin shortfall, amounting to approximately $7.4M of the approximate $9.2M shortfall (Table 17 in Appendix 1). In 2024, both schools are forecast to again

operate at a substantial deficit in 2023, and this is also projected to be the case for 2024. Consequently, addressing the financial situation in SFAT and SNS is key to the management of the overall College financial challenge and therefore is the focus of this Proposal for Change.

Strategic Context

In response to the financial challenges faced by Massey University, the Senior Leadership Team (SLT) has initiated three key areas of work under the *Focus on the Future* initiative to move the University into a financially sustainable position:

1. Management of No and Low Enrolment qualifications, specialisations and courses;
2. A reshaping of the University's academic footprint in alignment with the Digital Plus Policy; and
3. Management of staffing levels in accordance with affordability, which includes application of SSRs.

These approaches represent ongoing work for the CoS. Over the last 4-5 years, we have worked hard to shape our academic portfolio in a manner that supports our goal to sustain world-class teaching and research in a breadth of disciplines and subjects, balanced against the need to operate within a highly constrained financial environment. Given the college's current financial circumstances, it is imperative that we continue this work to focus our activities in areas that are: distinctive for Massey University, supported by robust student demand, well positioned to meet the needs of a changing student demographic, and financially sustainable.

There also is a critical need to rationalise and decrease the college's physical footprint given the large increase in infrastructure costs in recent years (greater than the rate of inflation). Importantly, infrastructure costs are a major contributor to the financial challenges in SFAT and SNS. It is noteworthy that UFA (Useable Floor Area) costs in 2023 represent a substantially higher proportion of annual expenditure for SFAT (approximately 29.0%) and SNS (approximately 23.8%) when compared to the other schools in the college (approximate values: SAE, 9.1%; SVS, 13.3%; SBE, 8.6%; SMCS, 8.7%) in large part because SFAT and SNS utilise extensive space on both the Auckland and Manawatū campuses – see Table 3.

2. Purpose, Scope and Approach

2.1 Purpose

The purpose of this document is to provide the final decision on the proposal for change involving the School of Food and Advanced Technology (SFAT) and the School of Natural Sciences (SNS) that are physically located on the Auckland and Manawatū campuses of Massey University. This Proposal for Change has been supported and approved by the Vice-Chancellor, Professor Jan Thomas and I have the delegated authority as the College of Sciences PVC to conduct this Proposal for Change.

Specifically, this Proposal for Change – Final Decision:

1. Identifies the qualifications currently offered by SFAT and SNS (i.e., degrees, diplomas and certificates), specialisations (i.e., majors, endorsements, and postgraduate subjects), and the location or mode of delivery of these, that are to be continued to be offered. Qualifications and specialisations that are to be discontinued (i.e., not offered for new commencement by students) are also identified.

2. Identifies the number of academic and technical staff positions in support of the teaching and research activities in the discipline/subject areas that are to continue, as well as the campus location of these staff and activities. Where the levels of staffing are lower than current numbers, the reduction in staffing required to achieve a sustainable operating environment and the process for determining the future staffing profile are described.
3. Notes the requirements for specific plans for the teach-out of qualifications and specialisations that will be closed to new enrolments. It is emphasised that as part of this final decision all current students will be supported to complete their programme of study.
4. Identifies the formation of a new school within CoS comprising staff from the current SFAT and SNS.
5. Identifies the new reporting lines for some individuals and teams to the PVC's Office.

2.2 Scope

For clarity, Sections 4 and 5 of this final decision document pertain to fixed term or permanent academic and technical staff partly or fully funded on the GL in SFAT and SNS. Many academic and technical staffing positions wholly supported by external contract funding (Research Management, RM accounts) are not in scope for Sections 4 and 5 in this document. However, some RM-funded positions dependent on staff supported by the GL are included in Sections 4 and 5. Section 7 considers positions that are affected through the formation of a proposed new school and other changes in reporting lines.

Table 5 and Table 6 show 2023 projected EFTS and total academic and technical staff FTE on the GL within each Academic Management Grouping (AMG) by campus for SFAT and SNS, respectively (numbers are rounded to 1 decimal point). The FTE indicated in Table 5 and Table 6 are those on 20 September 2023, and as such do not account for changes due to resignations received after that date or those leaving under the VEC scheme (those changes are accounted for in subsequent staffing tables).

Table 5. Forecast 2023 total EFTS and academic and technical staff FTE for SFAT by AMG and campus of operations.

SFAT AMG	Engineering and QS & SCM		Food, Safety and Quality, Dairy Science & Technology, and Nutrition		
Campus	Auckland	Manawatū	Auckland	Manawatū	Sub-total
EFTS	120.3	140.7	52.3	148.9	462.2
Academic FTE	8.5	17.8	7.0	23.0	56.3
Technical FTE	3.0	7.9	2.6	7.5	21.0

Table 6. Forecast 2023 total EFTS and academic and technical staff FTE for SNS by AMG and campus of operations.

SNS AMG	Chemistry		Physics		Plant Science & Breeding		Ecology, Conservation & Marine Biology		Molecular and Cellular Biology & Microbiology		Zoology		
Campus	Auckland	Manawatū	Auckland	Manawatū	Auckland	Manawatū	Auckland	Manawatū	Auckland	Manawatū	Auckland	Manawatū	Sub-total
EFTS	28.9	117.2	19.2	16.1	4.0	54.9	43.2	60.1	34.3	134.8	29.2	112.8	654.6
Academic FTE	3.0	10.9	1.0	2.0		5.4	9.1	5.2	4.0	13.7	5.0	5.7	65.0
Technical FTE	1.0	4.2	1.0	0.5		3.5	5.5	1.3	2.0	8.0	1.0	1.3	29.3

School of Food and Advanced Technology (SFAT)

The SFAT business group includes a number of distinct business centres. The organisational chart of those groups reporting to the Head of School is shown in Figure 1 below.

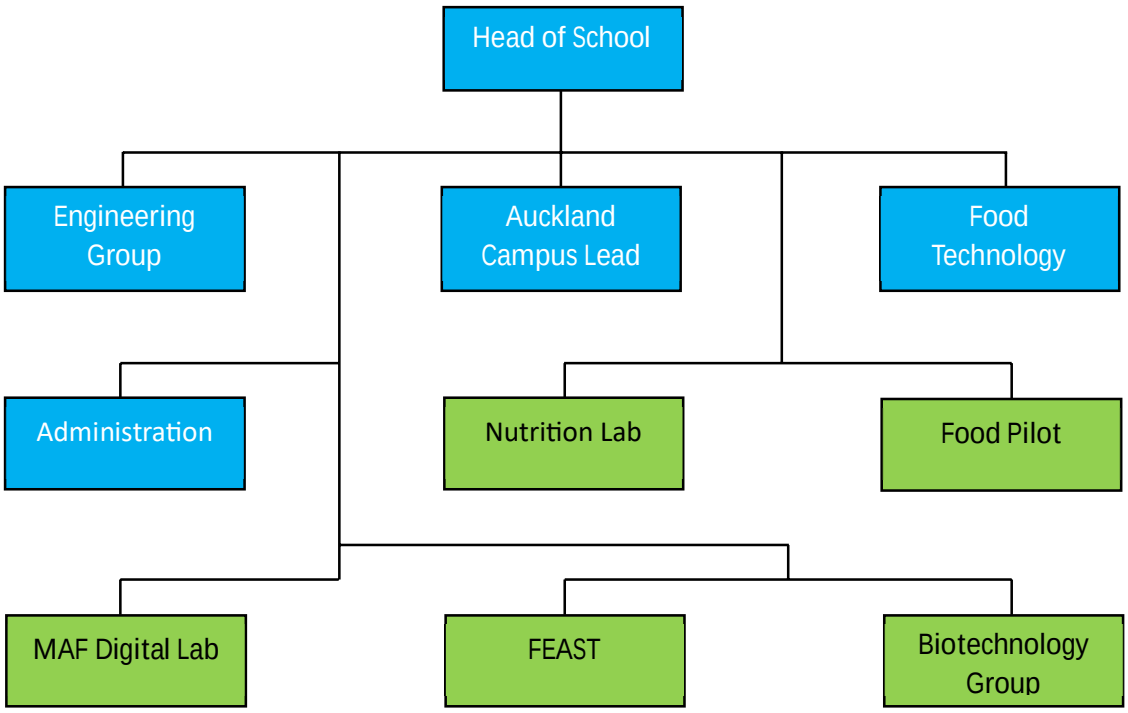

Figure 1. Organisational chart and reporting lines for positions reporting to the Head of School of SFAT. Groups and teams coloured in blue are in scope for Section 4, those in green are out of scope for Section 4.

For the purposes of Section 4 of this document:

- the in-scope groups and teams within the SFAT business group are shown above in blue boxes, and the out of scope groups are shown in green boxes;
- in the case of the Administration team, those positions already affected by the outcome of the Te Huringa o te Tai project are not included and are out of scope, all other positions in the Administration reporting line are in scope; and
- the Nutrition Lab, Food Pilot, FEAST, MAF Digital Lab, and the Biotechnology Group are out of scope because:
  - the Nutrition Lab is excluded as it has a focus on externally funded trading and contract activities;
  - the Food Pilot is excluded as it currently has an operational and financial review underway with a new management structure;
  - FEAST (Food Experience and Sensory Testing Laboratory) is excluded as the staff positions remain dependent on external funding;
  - the MAF Digital Lab is excluded as there are staffing changes underway, and staff positions remain dependent on external funding; and
  - the Biotechnology Group is excluded as there are staffing changes underway, and staff positions remain dependent on external funding.

For the purposes of Section 7 of this document:

- those positions for which no significant or minor change are described in Section 4, together with the new positions in Section 4 are in scope; and
- the Nutrition Lab, Food Pilot, MAF Digital Lab, FEAST and the Biotechnology Group are in scope.

School of Natural Sciences (SNS)

The SNS business group includes a number of distinct business centres. The organisational chart of those reporting to the Head of School is shown in Figure 2 below.

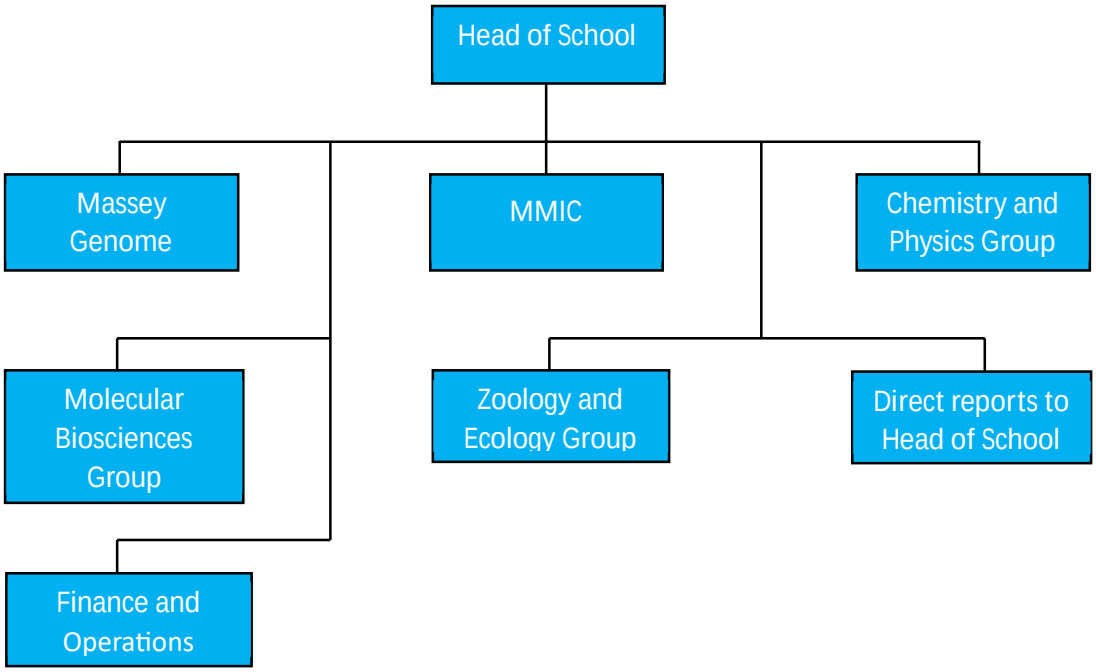

Figure 2. Organisational chart and reporting lines for positions reporting to the Head of School of SNS.

For the purposes of Section 5 of this document:

- all groups and teams within the SNS business group are in scope;
- parts of the Finance and Operations group and some of the direct reports to the Head of School are out of scope as they have been considered under the Te Huringa o Tai project.

For the purposes of Section 7 of this document:

- those positions for which no significant or minor change are described in Section 5, together with the new positions arising from the reduction in number/FTE of existing positions of same type in Section 5 are in scope.

Positions in SFAT and SNS affected in the current structure are listed in tables provided in Appendix 2:

- Table 19 lists the positions in SFAT affected by the changes described in Section 4;
- Table 20 lists the positions in SFAT affected only by the changes described in Section 7; and
- Table 21 lists the positions in SNS affected by the changes described in Section 5.

2.3 Analysis informing this Proposal for Change – Final Decision

A revised set of No and Low Enrolment Policy and Procedures (NLEP) and a recently adopted Digital Plus Policy have been developed to support progress towards a more sustainable academic footprint and operating model for Massey University. Consistent with the VC's delegation to the PVC CoS, the NLEP and Digital Plus Policy have been used in combination with a revised set of CoS-determined student to staff ratios (SSRs; see Appendix 3) to identify which discipline/subject areas in SFAT and SNS will be continued for teaching and research, where these activities will take place, and the number of academic and technical staff positions that will be allocated for those activities. The

distinctiveness / differentiation of the subject, discipline and/or specialisation in the context of the Aotearoa New Zealand University sector has also been an important consideration.

Appendix 3 presents the methodology used to analyse the academic delivery for SFAT and SNS. Appendices 4 and 5 present the detailed analyses for SFAT and SNS respectively, as a basis for the changes described herein. This comprises:

1. Analysis of financial position.
2. Analysis of EFTS by AMG and campus of operation (current year and trends over a 5-year period, 2018-2022) and the impact of application of the NLEP on qualifications, specialisations and courses hosted by the school;
3. Consideration of the Digital Plus Policy in relation to the location of the school's academic delivery; and
4. SSRs and supportable levels of academic and technical staffing based upon affordability and workload requirements.

The changes for SFAT and SNS are described in separate sections to follow, namely sections 4 and 5 respectively.

3. Stakeholders

Table 7 outlines the stakeholder groups and/or individuals that either receive or provide services to SFAT or SNS and as such are included in the two consultation periods on this proposal for change prior to developing this Final Decision.

Table 7. Stakeholders for the proposal for change.

Positions	Role
Pro Vice-Chancellor, College of Sciences	Overall responsibility for the allocation of resources and structure of the CoS.
Head of School, SFAT and Head of School, SNS	Overall responsibility for the allocation of resources and structure of these schools.
School Executive and Group Leaders	Management and leadership responsibility for school management groups.
Staff positions affected by change directly	Academic and technical staff directly affected by any changes implemented as a result of this review.
Staff positions affected by change indirectly	Staff indirectly affected by any changes implemented as a result of this review. This includes staff within SFAT and SNS who are fully funded by non-GL sources (e.g., external research contracts).
Postgraduate students	Currently enrolled postgraduate students in SFAT and SNS directly or indirectly affected by any change in academic offer.
Undergraduate students	Undergraduate students directly or indirectly affected by any change in academic offer.
College of Sciences Board	College of Sciences Board will be consulted on the academic programme changes proposed in this document.
Academic Board	Academic Board will be consulted on the academic programme changes proposed in this document.

4. Final Decision for the School of Food and Advanced Technology (SFAT)

The changes that have been determined for SFAT are presented in relation to the four areas of academic delivery in the school:

- Engineering qualifications and specialisations;
- Supply Chain Management qualifications and specialisations;
- Quality Systems qualifications and specialisations; and
- Food Technology qualifications and specialisations.

4.1 Engineering

SFAT currently delivers the Bachelor of Engineering with Honours [BE(Hons)], Master of Engineering (ME), Master of Engineering Studies (MEngSt), and PhD (Engineering) qualifications.

The decision is that Massey University will discontinue all Engineering teaching and research at both the Auckland and Manawatū campuses. For clarity, this will mean closing these programmes to new enrolments as of 1 January 2024. The decision to discontinue Engineering teaching and research is based on consideration of (see Appendix 4 for detailed analysis):

1. The number of EFTS in Engineering specialisations and courses, in particular:
    a. EFTS in only one of the BE(Hons) specialisations (Mechatronics) have consistently exceeded the low enrolment threshold.
    b. The high proportion of required courses in the BE(Hons) with enrolments well below the required thresholds.
2. The non-viability of a BE(Hons) confined to the delivery of a single specialisation (Mechatronics) if it were to continue. A level of subsidisation would be required to achieve the level of staffing needed to sustain teaching and research activities.
3. The consequential effects of withdrawing the BE(Hons) on the viability of the ME, MEngSt and PhD (Engineering) qualifications.
4. The financial performance of Engineering on both the Auckland and Manawatū campuses.
5. The lack of distinctiveness and relatively low impact of Massey University Engineering as a provider of University-level engineering training in New Zealand.

It is recognised that the proposed discontinuation of Engineering will have an impact on:

- The need for specialist Information Technology capability within SFAT; and
- The teaching of 100-level mathematics, physics and chemistry, and 200-level chemistry.

4.2 Supply Chain Management

SFAT currently delivers three Supply Chain Management (SCM) qualifications, a Graduate Diploma in Logistics and Supply Chain Management (GDipSCM), a Master of Supply Chain Management (MCSM), and a Postgraduate Diploma in Supply Chain Management (PGDipSCM). The decision is that the delivery of all SCM qualifications will be discontinued with no new enrolments from 2024. The decision to discontinue the GDipSCM is based on consideration of current and historical (2018 – 2022) enrolments that are well below the LNEP threshold (see Appendix 4 for full analysis). The PGDipSCM and MSCM meet the LNEP criterion when considered as 'nested' qualifications (i.e., they

share courses). However, at a weighted SSR[4] of 23.2, the EFTS load in this subject barely supports a single academic staff position.

4.3 Quality Systems

SFAT currently delivers two Quality Systems qualifications, a Master of Quality Systems (MQS) and a Postgraduate Diploma in Quality Systems (PGDipQS). However, even when these qualifications are considered together (as "nested qualifications"), the combined EFTS for these qualifications do not meet the LNEP criterion (see Appendix 4 for full analysis). Consequently, the decision is that all delivery of the PGDipQS and MQS qualifications will be discontinued with no new enrolments from 2024.

4.4 Food Science and Technology-related qualifications

SFAT delivers a suite of Food Science and Technology-related qualifications, dominated by the delivery of the Bachelor of Food Technology with Honours [BFoodTech(Hons)] on the Auckland and Manawatū campuses as well as offshore (Jiangnan University, China and the Singapore Institute of Technology [SIT], the latter now in 'teach out' mode). The Food, Safety and Quality, Dairy Science & Technology, and Nutrition AMG is not meeting financial performance targets accounting for approximately $2.2M of the projected shortfall in margin contribution for SFAT in 2023.

Given the financial situation, EFTS data in relation to the NLEP, consideration of campus consolidation (Digital Plus Policy), and the strategic value of Food Science and Technology to Massey University and Aotearoa New Zealand, the decision is to:

1. Maintain the BFoodTech(Hons) on the Manawatū campus with two specialisations: Food Product Technology and Food Process Engineering.
2. Discontinue the BFoodTech(Hons) qualification on the Auckland campus and close the qualification to new enrolments on this campus from 1 January 2024.
3. Continue the offshore delivery of the BFoodTech(Hons) qualification at Jiangnan University and continue with the teach-out already underway at SIT.
4. Discontinue the Master of Food Technology (MFoodTech) and PhD (Food Technology) qualifications at the Auckland campus, given that delivery of these qualifications is reliant on the delivery of the BFoodTech(Hons) at this location and close to new enrolments from 1 January 2024.
5. Maintain the MFoodTech, Master of Food Safety & Quality, Master of Dairy Science & Technology, and PhD in food-related areas on the Manawatū campus.
6. Replace the Diploma of Dairy Technology with a new Graduate Diploma in Dairy Science & Technology (start date to be determined).

The Intensive Animal Research Centre (otherwise known as SAPU) is broadly associated with the Food, Safety and Quality, Dairy Science & Technology, and Nutrition AMG. This unit has experienced a marked decrease in utilization by Massey University researchers and by external fee-paying researchers. Moreover, the facilities would require considerable upgrading to permit long term utilization. In the face of declining cost recovery and the need to invest to continue it is therefore decided that SAPU ceases operation in 2024 upon the completion of the contracted activities of the single external fee-paying research team.

[4] The weighted SSR is calculated from the relative proportion of undergraduate (SSR 25 for Supply Chain Management teaching) and postgraduate research training (PhD and 90 credits or higher Master's thesis; SSR = 14).

4.5 Staffing outcomes for the School of Food and Advanced Technology

This section of the final decision document sets out the more detailed aspects of the staffing changes for SFAT, including the impacts on staff positions within the existing structures.

For those staff in scope, the impacts of the changes are outlined in the following categories:

A. Positions for which there will be no significant change;
B. Positions which will be disestablished; and
C. New Positions.

Identifiers within staff employment agreements include organisational reporting lines and campus (location of work). For some positions, Jiangnan University or the Singapore Institute of Technology is included in identifying the location of work.

4.5A Positions for which there will be no significant or only minor change

There are a number of positions which will remain essentially unchanged in the new structure. Included in this category are changes in job description, reporting line, and business title. It is acknowledged that individuals are likely to feel that such changes are significant in terms of personal impacts (such as being part of a new group of colleagues etc). However, because the change does not impact the employment status of the person in the role, such changes are included in this category.

The positions for which there will be no significant or only minor change are listed in Table 8 below.

A number of fixed-term positions are included in this list. Here, the activities and duties will remain unchanged for the duration of the fixed-term agreements. For fixed-term positions based at Auckland, it should be noted that the changes will not come into effect until after the completion of the fixed-term agreements.

Table 8a. Positions in SFAT for which there will be no significant or only minor change (continued on next page).

Position	Reporting Line	Campus	Headcount	FTE	Final Decision
Professor	Food Technology Group	Auckland	1	0.7	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Auckland Campus and Offshore Delivery Leader	Food Technology Group	Auckland	1	0.3	No change to FTE or practice. Change in Business Title to Offshore Delivery Leader. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Professor in Food Colloids/Group Leader - Food Technology Group	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Professor of Food Safety and Microbiology	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Professor of Postharvest Engineering/Team Leader - Post Harvest Technology Team	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the School of Agriculture and Environment
Professor	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Professor	Food Technology Group	Manawatū	1	0.3	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Associate Professor in Food Rheology and Colloid Science/Tech / Team Leader - Food Product Technology	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Associate Professor	Food Technology Group	Manawatū	1	0.8	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Lecturer/Team Leader - Food Manufacturing Technology Team	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Lecturer in Food Process Engineering	Food Technology Group	Manawatū & Jiangnan	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Lecturer in Food Science and Technology	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Lecturer	Food Technology Group	Manawatū	3	2.5	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Research Officer	Food Technology Group	Manawatū	1	0.7	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Research Officer in Postharvest Technology	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the School of Agriculture and Environment
Junior Research Officer	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Postdoctoral Fellow - Collagen Research Study	Food Technology Group	Manawatū	1	0.7	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Postdoctoral Fellow	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the School of Agriculture and Environment
Postharvest Technologist / Technical Infrastructure Manager	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the School of Agriculture and Environment
Microbiology Technician	Food Technology Group	Manawatū	1	0.5	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Research Technician	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the School of Agriculture and Environment
Technician	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Research Associate	Food Technology Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Academic Director, Singapore	Food Technology Group	Singapore	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Tutor	Food Technology Group	Singapore	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)

Table 8b. Positions in SFAT for which there will be no significant or only minor change (continued from previous page).

Position	Reporting Line	Campus	Headcount	FTE	Final Decision
Professor	Engineering Group	Manawatū	1	0.3	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the Contract Research Unit reporting to the DPVC in the PVC's Office
Senior Lecturer in Packaging Technology	Engineering Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the Food Technology Group in the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Lecturer in Project Based Learning	Engineering Group	Manawatū	1	1.0	No change to FTE. Move to leadership of Science & Sustainability. Change in reporting line to the Director of Teaching and Learning in the PVC's Office
Research Officer	Engineering Group	Manawatū	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the Food Technology Group in the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Junior Research Officer	Engineering Group	Manawatū	1	0.1	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Biotechnology Laboratory Manager	Engineering Group	Manawatū	1	1.0	No change to FTE. Change in reporting line to the Food Technology Group in the new school with the name School of Food Technology and Natural Sciences (SFTNS). Change in Business Title to Senior Technician - Food Microbiology
Microbiology Technician	Engineering Group	Manawatū	1	0.6	No change to FTE or practice. Change in reporting line to the Food Technology Group in the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Mechanical Workshop Technician	Engineering Group	Manawatū	1	1.0	No change to FTE. Change in reporting line to the Operational Services Group in the new school with the name School of Food Technology and Natural Sciences (SFTNS). Change in Business Title to Senior Technician - Mechanical Workshop and change in reporting line to the Engineering Services Manager
Head Engineering Technician - FoodPilot	Engineering Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the FoodPilot reporting to the DPVC in the PVC's Office
IT Team Leader	IT Group	Manawatū	1	0.5	No change to FTE or practice. Change in reporting line for the IT Group to the DPVC in the PVC's Office
Research IT Support Consultant	IT Group	Manawatū	1	0.5	No change to FTE or practice. Change in reporting line for the IT Group to the DPVC in the PVC's Office
IT Support Specialist	IT Group	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line for the IT Group to the DPVC in the PVC's Office
Data Integrity Consultant	IT Group	Manawatū	1	0.5	No change to FTE or practice. Change in reporting line for the IT Group to the DPVC in the PVC's Office
Technician	IT Group	Manawatū	1	0.5	No change to FTE or practice. Change in reporting line for the IT Group to the DPVC in the PVC's Office
Professor of Food and Bioprocess Engineering	Head of School	Manawatū	1	0.2	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the Contract Research Unit reporting to the DPVC in the PVC's Office
Senior Research Officer	Head of School	Manawatū	1	0.2	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the Contract Research Unit reporting to the DPVC in the PVC's Office
Research Officer	Head of School	Manawatū	1	0.2	No change to FTE or practice. Change in group name to Contract Research Unit and change in reporting line to the DPVC in the PVC's Office
Business Manager	Head of School	Manawatū	1	0.5	Continue in temporary role until further notice
Sub-total			45	34.7	

4.5B Positions which are to be disestablished

The positions that will be disestablished are listed in Table 9.

Table 9. Positions in SFAT which are to be disestablished.

Position	Reporting Line	Campus	Headcount	FTE	Rationale
Professor in Electronics, Information & Communication Systems	Engineering Group	Auckland	1	1.0	Final Decision to close all Engineering qualifications, teaching and research on the Auckland campus
Associate Professor in Computer Engineering	Engineering Group	Auckland	1	1.0	
Associate Professor in Computer Engineering/Group Leader for the Engineering Group	Engineering Group	Auckland	1	1.0	
Associate Professor in Product Development	Engineering Group	Auckland	1	1.0	
Senior Lecturer in Mechatronics	Engineering Group	Auckland	1	1.0	
Senior Lecturer in Mechatronics and Robotics	Engineering Group	Auckland	1	1.0	
Senior Lecturer	Engineering Group	Auckland	2	2.0	
Lecturer in Electronics, Information and Communication Systems	Engineering Group	Auckland	1	0.5	
Mechanical Workshop Technician	Engineering Group	Auckland	1	1.0	
Technician - Electronics	Engineering Group	Auckland	1	1.0	
Professor in Environmental Engineering	Engineering Group	Manawatū	1	0.8	Final Decision to close all Engineering qualifications, teaching and research on the Manawatū campus
Professor in Imaging Systems	Engineering Group	Manawatū	1	1.0	
Professor of Nanotechnology	Engineering Group	Manawatū	1	1.0	
Professor and Research Director	Engineering Group	Manawatū	1	1.0	
Professor	Engineering Group	Manawatū	1	0.8	
Associate Professor	Engineering Group	Manawatū	1	1.0	
Senior Lecturer in Mechatronics	Engineering Group	Manawatū	1	1.0	
Senior Lecturer in Supply Chain Management	Engineering Group	Manawatū	1	1.0	
Senior Lecturer	Engineering Group	Manawatū	3	3.0	
Director - Centre for Organisational Excellence Research	Engineering Group	Manawatū	1	0.2	
Manager and Team Leader	Engineering Group	Manawatū	1	1.0	
Electronics Technician	Engineering Group	Manawatū	1	1.0	
Senior Lecturer in Food Product Development and Sensory Science	Food Technology Group	Auckland	1	1.0	
Senior Lecturer in Food Technology	Food Technology Group	Auckland & Jiangnan	1	1.0	
Senior Lecturer	Food Technology Group	Auckland	3	3.0	
Lecturer in Food Technology/Food Engineering	Food Technology Group	Auckland	1	1.0	
Food Technician	Food Technology Group	Auckland	1	1.0	
Laboratory Technician	Food Technology Group	Auckland	1	1.0	
SAPU Facility Manager	Food Technology Group	Manawatū	1	1.0	Final Decision to close the SAPU facility. However, the period of notice would be extended to align with the timing of the closure of the facility on 17 May 2024
Sub-total			34	32.3	

The incumbents have been given notice in writing of the disestablishment of their position concurrently with the release of this final decision.

4.5C New positions

A number of new positions will be established (detailed in Table 10). Some of the positions may be entirely new; others may contain elements which presently exist, but will involve significant change from an existing role.

Table 10. New positions in Food Technology.

Position	Campus	Headcount	FTE	Reporting Line	Reporting to
Senior Lecturer/Associate Professor in Food Technology, Jiangnan delivery	Manawatū & Jiangnan	2	2.0	Food Technology Group	Group Leader, Food Technology Group
Lecturer/Senior Lecturer	Manawatū	1	1.0		
Senior Technician in Product Development, Grade GEN5	Manawatū	2	2.0		
Sub-total		5	5.0		

The Job Descriptions for the above-mentioned new positions are provided in Appendix 6.

Appointment Process Information

- A selection and appointment process for the new positions will be undertaken where, wherever possible, those positions will be ringfenced for applications from amongst affected staff (i.e. disestablished) only in the first instance. Ringfencing will allow affected staff to apply for positions within the confirmed new school structure.
- Where the positions are not filled through the ringfenced process, positions may then be advertised externally. Internal applicants who are currently in positions that will be disestablished in this final decision will be considered in the context of the University's commitment to preserving employment where possible to do so.
- Advertising of positions in the new School will occur in as common a timeframe as possible to allow all affected staff to apply for as many relevant new positions as possible. This process will begin the week commencing 8 January 2024.
- The appointment process will adhere to strict deadlines to ensure a consistent and fair process, which will give any applicants who apply for more than one position and potentially have multiple offers, the ability to consider them in a timely manner. Affected staff applying for notified positions as 'redeployment' will require special consideration to ensure that the University's obligations under Part 8 of the Massey University Collective and Individual Employment Agreements are met. In addition, the University's Te Tiriti o Waitangi commitments are recognised and considered in any potential impact to affected Māori staff.
- Support in preparing a CV and for a job interview is available through MyHR – see '*Writing an Effective CV (Online)*' and '*Preparing for a Job Interview (Online)*'. These are available in MyHR under 'Development Catalogue' and 'Personal Professional Development'.

To summarise the above, this proposal will mean that with respect to SFAT:

- Category A: 34.7 FTE (45 headcount) staff hold positions where there is no significant change proposed. Of those, two positions are based in Auckland (1.0 FTE), 40 are based in Manawatū (30.7 FTE) two are based in Singapore (2.0 FTE), and one is co-located in New Zealand and China (1.0 FTE).
- Category B: 32.3FTE (34 headcount) positions will be disestablished. Of these, 17.5FTE (18 headcount) are based in Auckland, 13.8 FTE (15 headcount) in the Manawatū, with the remaining 1.0 FTE staff member co-located between New Zealand and China.
- Category C: five new positions will be created involving 5.0 FTE.

5. Final Decision for the School of Natural Sciences (SNS)

5.1 Strategic consideration of Massey University's role in BSc and MSc training

The BSc and MSc are the standard qualifications throughout Aotearoa New Zealand and Australia, with variants in the USA, UK and elsewhere, for the training of undergraduate and postgraduate students in the broad science areas. Each institution selects the scope of that breadth, but typically offering 6-8 or more specialisations (majors).

There is a general 'expectation' by potential students and stakeholders that universities provide:

- a breadth of specialisations in the BSc and MSc across the sciences; and
- some of the 'core' subjects studied at NCEA Level 2 and 3, recognising that High School-level Biology splits into a range of specialisations at University-level.

The changes for SNS are presented in relation to the four areas of academic delivery in the school:

- BSc Molecular Cell Biology, Ecology and Conservation, and Zoology, and related postgraduate specialisations;
- BSc Microbiology;
- BSc Plant Science and PGDipScTech and MSc Plant Breeding; and
- BSc Chemistry and MSc Chemistry.

In addition, reporting line changes are presented in relation to the two research service units, the Manawatū Microscopy and Imaging Centre (MMIC) and the Massey Genome Service (MGS).

5.2 BSc Molecular Cell Biology, Ecology and Conservation, and Zoology, and related postgraduate specialisations

SNS currently delivers several majors within the BSc programme including Molecular Cell Biology, Ecology and Conservation, and Zoology majors; the related postgraduate Biological Sciences, Conservation Biology, Ecology and Zoology specialisations in the PGDipScTech and the MSc, and PhD research in the related areas.

It has been decided that Massey University will maintain these specialisations at the Manawatū campus and discontinue these specialisations at the Auckland campus.

This decision is based on consideration of the 2023 forecast data (see Appendix 5 for full analysis):

1. The larger shortfall in required margin per EFTS in the related AMGs at Auckland (approximately $21K/EFTS) compared to Manawatū (approximately $9K/EFTS);
2. The lower number of EFTS in the specialisations at the Auckland campus (106.6 EFTS compared to 307.7 at Manawatū);
3. The need to treat the three biological BSc majors as co-located activities; and
4. Location of other related qualifications and service teaching.

It is recognised that maintenance of these specialisations at Manawatū will require an extent of subsidisation, and that substantial efforts will need to be made to ensure that the specialisations and contributing courses maintain relevance to other parts of the college's qualifications and specialisations.

5.3 BSc Microbiology

SNS currently delivers the Microbiology specialisation within the BSc on the Manawatū campus only.

The decision is to maintain delivery at the Manawatū campus for the BSc Microbiology specialisation, and PhD research in the related areas (see Appendix 5 for full analysis).

This decision is based on consideration of:

1. The BSc Microbiology specialisation almost meeting the NLEP criterion in 2023 (and has exceeded the threshold in all prior years of evaluation);
2. The specialisation being identified as of strategic importance for continuation; and
3. The potential to adapt the contributing courses to ensure relevance to other parts of the college's academic delivery.

It is recognised that maintenance of this specialisation will require an extent of subsidisation and that substantial efforts will need to be made to ensure that the specialisation and contributing courses maintain relevance to other parts of the college's qualifications and specialisations.

5.4 BSc Plant Science, PGDipScTech and MSc Plant Breeding

SNS currently delivers the BSc Plant Science specialisation and MSc in Plant Breeding (which is nested with a specialisation in the PGDipScTech) on the Manawatū campus.

The decision is to continue the delivery of the BSc Plant Science specialisation, the PGDipScTech and MSc Plant Breeding specialisations, and PhD research in the related areas.

This decision is based on consideration of (see Appendix 5 for full analysis):

1. While the number of EFTS within the BSc specialisation does not meet the NLEP criterion (BSc Plant Science requires 30 EFTS per year and it has not reached that in the prior six years), it is acknowledged that the BSc major was 'rested' for a one-year period in 2021 with an obvious impact on EFTS load.
2. While the nested PGDipScTech and MSc in Plant Breeding require 5 EFTS per year and has not reached this since 2019) it is recognized that there is a need within NZ to provide in some form specialized postgraduate training in this area; and
3. The scope for fully integrating the specialisations into the wider area of horticultural science for strategic reasons.

To meet the objective of integrating the Plant Science and Plant Breeding specialisations with horticulture, the decision is that the reporting line for the associated academic staff and technical staff change to the School of Agriculture and Environment, with the exception of one technical position closely aligned with the autoclave facility changing reporting line to the Operational Service Group in the new school. The staff and activities associated with Plant Science and Plant Breeding in SNS will relocate to join the horticulture staff and activities in SAE.

5.5 BSc Chemistry and MSc Chemistry

SNS currently delivers the BSc Chemistry and MSc Chemistry specialisations on the Manawatū campus, having been discontinued on the Auckland campus from 2021. The BSc (Hons) was discontinued in 2021 and the PGDipScTech Chemistry specialisation (nested with the MSc) was discontinued in 2022.

The decision is to maintain at the Manawatū campus the delivery of the BSc Chemistry, MSc Chemistry and related PhD research (see Appendix 5 for full analysis).

This decision is based on consideration of:

1. The BSc Chemistry specialisation almost meeting the NLEP criterion;
2. The specialisation being identified as of strategic importance for continuation for Massey University and the wider Aotearoa New Zealand university sector; and
3. The potential to adapt the contributing courses to ensure relevance to other parts of the college's academic delivery.

It is recognised that maintenance of this specialisation will require an extent of subsidisation and that substantial efforts will need to be made to ensure that the specialisation and contributing courses maintain relevance to other parts of the college's qualifications and specialisations.

5.6 Manawatū Microscopy and Imaging Centre (MMIC)

The decision is to continue the operation of the MMIC on the Manawatū campus.

This decision is based on the consideration of:

1. The ongoing demand for revenue-earning services provided by MMIC;
2. The ongoing demand for MMIC services within Massey University; and
3. The opportunity for remediating the financial performance of the MMIC through reviewing the cost and revenue structures.

To meet the objective of remediating the financial performance of the MMIC the decision is that this unit move from being managed within a school structure, and move to reporting through to the PVC's office.

5.7 Massey Genome Service (MGS)

The decision is to continue the operation of the Massey Genome Service unit on the Manawatū campus.

This decision is based on the consideration of:

1. The ongoing demand for revenue-earning services provided by MGS;
2. The ongoing demand for MMIC services within Massey University; and
3. The opportunity for remediating the financial performance through reviewing the cost and revenue structures.

To meet the objective of remediating the financial performance of the MGS the decision is that this unit move from being managed within a school structure, and move to reporting through to the PVC's office.

5.8 Consequential changes to service course requirements

With the decisions detailed in Sections 4.1, 4.4 and 5.2 above there will be consequential impacts to the current delivery of service courses provided by SNS:

- There will be no need for delivery of the 100-level Plant Science course 120101 Plant Biology on the Auckland campus;
- There will be no need for delivery of the 100-level Chemistry courses on the Auckland campus. The qualifications and specialisations managed by the College of Health that utilise those courses will be able to access those courses through Distance offerings delivered from the Manawatū campus;
- There will be no need for the delivery of the 200-level Chemistry courses 123201 Chemical Energetics and 123271 Molecules to Materials on the Auckland campus;
- There will be no need for delivery of the 100-level Physics course 124104 Physics 1A: Mechanics and Thermodynamics on the Auckland campus;
- There will be reduced need for delivery of the 100-level Physics course 124104 Physics 1A: Mechanics and Thermodynamics on the Manawatū campus.;
- There will be no need for the delivery of the 100-level Physics course 124105 Physics 1B: Electricity, Waves and Modern Physics on either the Auckland campus or the Manawatū campus;
- There will be no need for delivery of the 100-level course 162101 Cell Biology on the Auckland campus. The qualifications and specialisations managed by the College of Health utilizing that course will be serviced through a Distance offering delivered from the Manawatū campus; and

- There will be no need for delivery of the 100-level courses 199103 Animals and the Environment or the Ecology course 196101 Ecology, Evolution and Behaviour on the Auckland campus. Any students wishing to study these courses as electives will be able to access those courses through Distance offerings of the courses delivered from the Manawatū campus.

Alongside these consequential changes to delivery of service level courses there will be a reduction in the utilisation of 100-level Mathematics and Statistics courses on both the Auckland campus and the Manawatū campus.

5.9 Staffing outcomes for the School of Natural Sciences

This section of the final decision document sets out the more detailed aspects of the staffing changes for SNS, including the impacts on positions within the existing structures.

The staff impacts are outlined in the following categories:

A. Positions for which there will be no significant change;
B. Positions which will be disestablished; and
C. New positions.

Staff positions are categorised by organisational reporting line and campus of operation.

5.9A Positions for which there will be no significant or only minor change

There are a number of positions which will remain essentially unchanged. These are listed in Table 11 below.

A number of fixed-term positions are included in this list. Here, the activities and duties will remain unchanged for the duration of the fixed-term agreements. For fixed-term positions based at Auckland, it should be noted that the changes will not come into effect until after the completion of the fixed-term agreements.

Table 11a. Positions in SNS for which there will be no significant or only minor change (continued on next pages).

Position	Reporting Line	Campus	Headcount	FTE	Final Decision
Professor	Zoology and Ecology	Auckland	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Research Officer (Molecular Ecology)	Zoology and Ecology	Auckland	1	0.6	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Research Officer in Zoology and Ecology	Zoology and Ecology	Auckland	2	1.6	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Research Officer	Zoology and Ecology	Auckland	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Postdoctoral Fellow (Molecular Ecology)	Zoology and Ecology	Auckland	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Research Technician (Evolutionary Biology)	Zoology and Ecology	Auckland	4	2.5	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Research Assistant (Molecular Ecology)	Zoology and Ecology	Auckland	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Professor in Chemistry	Chemistry and Physics	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Professor in Physical Chemistry	Chemistry and Physics	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Associate Professor in Chemistry	Chemistry and Physics	Manawatū	2	1.6	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Research Officer in Chemistry	Chemistry and Physics	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Lecturer in Chemistry	Chemistry and Physics	Manawatū	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Tutor in Chemistry	Chemistry and Physics	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Research Officer (Biochemistry)	Chemistry and Physics	Manawatū	1	0.8	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Postdoctoral Fellow (Synthetic Chemistry)	Chemistry and Physics	Manawatū	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Postdoctoral Fellow	Chemistry and Physics	Manawatū	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Technician - Science	Chemistry and Physics	Manawatū	1	1.0	No change to FTE or practice. Change in Business Title to Senior Technician - Chemistry. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Technician	Chemistry and Physics	Manawatū	1	0.5	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Technician	Chemistry and Physics	Manawatū	1	1.0	No change to FTE or practice. Change in Business Title to Senior Technician - Chemistry. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)

Table 11b. Positions in SNS for which there will be no significant or only minor change (continued from previous page).

Position	Reporting Line	Campus	Headcount	FTE	Final Decision
Professor in Genomics and Computational Biology	Molecular Biosciences	Manawatū	1	0.5	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Professor in Microbiology	Molecular Biosciences	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Professor of Molecular Evolution	Molecular Biosciences	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the School of Agriculture and Environment
Associate Professor in Molecular Biology	Molecular Biosciences	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Associate Professor in Molecular Cell Biology	Molecular Biosciences	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Associate Professor in Plant Systematics and Evolution	Molecular Biosciences	Manawatū	1	0.5	No change to FTE or practice. Change in reporting line to the School of Agriculture and Environment
Associate Professor in Plant Systematics and Evolution	Molecular Biosciences	Manawatū	1	0.5	No change to FTE or practice. Change in reporting line to the new school with the proposed name School of Food Technology and Natural Sciences (SFTNS)
Associate Professor	Molecular Biosciences	Manawatū	1	0.9	No change to FTE or practice. Change in reporting line to the School of Agriculture and Environment
Senior Lecturer in Microbiology	Molecular Biosciences	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Lecturer in Molecular Cell Biology	Molecular Biosciences	Manawatū	3	2.6	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Lecturer in Plant Genetics	Molecular Biosciences	Manawatū	1	0.2	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the School of Agriculture and Environment
Senior Lecturer in Plant Science	Molecular Biosciences	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the School of Agriculture and Environment
Senior Tutor in Molecular Cell Biology	Molecular Biosciences	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Research Officer in Molecular Cell Biology	Molecular Biosciences	Manawatū	1	0.6	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Junior Research Officer - Molecular Biosciences	Molecular Biosciences	Manawatū	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Junior Research Officer	Molecular Biosciences	Manawatū	2	1.8	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Postdoctoral Fellow in Molecular Cell Biology	Molecular Biosciences	Manawatū	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Postdoctoral Fellow	Molecular Biosciences	Manawatū	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Teaching Technician Manager	Molecular Biosciences	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Technician	Molecular Biosciences	Manawatū	3	2.5	No change to FTE or practice. Change in reporting line to the School of Agriculture and Environment
Technician	Molecular Biosciences	Manawatū	1	1.0	No change in FTE or practice. Change in reporting line to the Operational Services Group in the new school with the proposed name School of Food Technology and Natural Sciences (SFTNS)
Research Technician in Molecular Biology	Molecular Biosciences	Manawatū	2	2.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)

Table 11c. Positions in SNS for which there will be no significant or only minor change (continued from previous pages).

Position	Reporting Line	Campus	Headcount	FTE	Final Decision
Professor in Ecology	Zoology and Ecology	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Professor in Evolutionary Biology	Zoology and Ecology	Manawatū	1	0.7	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Professor in Evolutionary Ecology	Zoology and Ecology	Manawatū	1	0.7	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Professor in Wildlife Biology	Zoology and Ecology	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Professor in Zoology	Zoology and Ecology	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Associate Professor in Zoology and Ecology	Zoology and Ecology	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Lecturer in Ecology and Zoology	Zoology and Ecology	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Senior Lecturer in Zoology and Ecology	Zoology and Ecology	Manawatū	2	2.0	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Research Officer in Zoology and Ecology	Zoology and Ecology	Manawatū	1	0.5	No change to FTE or practice, continue to end of fixed term. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Technician	Zoology and Ecology	Manawatū	3	2.6	No change to FTE or practice. Change in reporting line to the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Director - Academic Centre	Massey Genome Service	Manawatū	1	0.1	No change to FTE or practice. Change in reporting line for the Massey Genome Service to the DPVC in the PVC's Office
Laboratory/Quality Assurance Manager - MGS	Massey Genome Service	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line for the Massey Genome Service to the DPVC in the PVC's Office
Technician - Massey Genome Service	Massey Genome Service	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line for the Massey Genome Service to the DPVC in the PVC's Office
Director - Manawatu Microscopy and Imaging Centre (MMIC)	MMIC	Manawatū	1	0.4	No change to FTE or practice. Change in reporting line for the MMIC to the DPVC in the PVC's Office
Microscopy Technician	MMIC	Manawatū	1	1.0	No change to FTE or practice, continue to end of fixed term. Change in reporting line for the MMIC to the DPVC in the PVC's Office
Technician	MMIC	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line for the MMIC to the DPVC in the PVC's Office
Research and Teaching Laboratories Safety Operations Coordinator	Head of School	Manawatū	1	0.5	No change to FTE or practice. Change in reporting line to the Operational Services Group in the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Research and Teaching Laboratories Operations Coordinator	Head of School	Manawatū	1	0.4	No change to FTE or practice. Change in reporting line to the Operational Services Group in the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Engineering Services Manager	Head of School	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the Operational Services Group in the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Electronic Services Manager	Head of School	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the Operational Services Group in the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Electronic Services Technician	Head of School	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the Operational Services Group in the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Purchasing Officer	Head of School	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the Operational Services Group in the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Purchasing Technician	Head of School	Manawatū	1	1.0	No change to FTE or practice. Change in reporting line to the Operational Services Group in the new school with the name School of Food Technology and Natural Sciences (SFTNS)
Sub-total			**78**	**66.5**	

5.9B Positions which will be disestablished.

The positions which will be disestablished are listed in Table 12 below.

Table 12. Positions in SNS which will be disestablished

Position	Reporting Line	Campus	Headcount	FTE	Rationale
Associate Professor in Chemistry	Chemistry and Physics	Auckland	2	2.0	Final Decision to close all of Chemistry, Physics, Molecular Biosciences, Zoology and Ecology on the Auckland campus
Senior Lecturer in Physics	Chemistry and Physics	Auckland	1	1.0	
Senior Tutor in Chemistry	Chemistry and Physics	Auckland	1	1.0	
Technician in Chemistry	Chemistry and Physics	Auckland	1	0.5	
Technician in Physics	Chemistry and Physics	Auckland	1	1.0	
Technician	Chemistry and Physics	Auckland	1	0.5	
Professor of Molecular Biosciences	Molecular Biosciences	Auckland	1	1.0	
Associate Professor in Molecular Cell Biology	Molecular Biosciences	Auckland	2	2.0	
Senior Tutor in Molecular Cell Biology	Molecular Biosciences	Auckland	1	1.0	
Technician (Molecular Cell Biology)	Molecular Biosciences	Auckland	1	1.0	
Technician	Molecular Biosciences	Auckland	1	1.0	
Professor of Behavioural Ecology	Zoology and Ecology	Auckland	1	1.0	
Professor in Zoology	Zoology and Ecology	Auckland	1	1.0	
Associate Professor in Zoology and Ecology	Zoology and Ecology	Auckland	1	1.0	
Senior Lecturer in Zoology and Ecology	Zoology and Ecology	Auckland	3	3.0	
Senior Tutor in Zoology and Ecology	Zoology and Ecology	Auckland	1	1.0	
Technician (Zoology and Ecology & Conservation)	Zoology and Ecology	Auckland	2	2.0	
Technician	Zoology and Ecology	Auckland	1	1.0	
Research and Teaching Laboratories Operations Co-ordinator	Head of School	Auckland	1	1.0	
Senior Lecturer in Physics	Chemistry and Physics	Manawatū	2	2.0	Final Decision to close all contributing co
Technician	Chemistry and Physics	Manawatū	3	2.2	Final Decision to create 1.5 FTE of new Senior Technician - Chemistry positions
Technician	Molecular Biosciences	Manawatū	4	4.0	Final Decision to create 3.0 FTE of new Senior Technician - Molecular Biosciences positions
Sub-total			33	31.2	

The incumbents have been given notice in writing of the disestablishment of their position with the release of this final decision.

5.9C New positions

A number of new positions will be established (detailed in Table 13). Some of the positions contain elements which presently exist, but will involve significant change from an existing role.

Table 13. New positions.

Position	Campus	Headcount	FTE	Reporting Line	Reporting to
Senior Lecturer/Associate Professor/Professor	Manawatū	1	1.0	Zoology and Ecology	Group Leader, Zoology and Ecology
Senior Technician - Chemistry, Grade GEN5	Manawatū	2	1.5	Chemistry	Group Leader, Chemistry Group
Senior Technician - Molecular Biosciences, Grade GEN5	Manawatū	3	3.0	Molecular Biosciences	Group Leader, Molecular Biosciences Group
Sub-total		6	5.5		

The Job Descriptions for the above-mentioned new positions are provided in Appendix 6.

Appointment Process Information

- A selection and appointment process for the new positions will be undertaken where, wherever possible, those positions will be ringfenced for applications from amongst affected staff (i.e. disestablished) only in the first instance. Ringfencing will allow affected staff to apply for positions within the confirmed new school structure.
- Where the positions are not filled through the ringfenced process, positions may then be advertised externally. Internal applicants who are currently in positions that will be disestablished in this final decision will be considered in the context of the University's commitment to preserving employment where possible to do so.

- Advertising of positions in the new School will occur in as common a timeframe as possible to allow all affected staff to apply for as many relevant new positions as possible. This process will begin the week commencing 8 January 2024.
- The appointment process will adhere to strict deadlines to ensure a consistent and fair process, which will give any applicants who apply for more than one position and potentially have multiple offers, the ability to consider them in a timely manner. Affected staff applying for notified positions as 'redeployment' will require special consideration to ensure that the University's obligations under Part 8 of the Massey University Collective and Individual Employment Agreements are met. In addition, the University's Te Tiriti o Waitangi commitments are recognised and considered in any potential impact to affected Māori staff.
- Support in preparing a CV and for a job interview is available through MyHR – see '*Writing an Effective CV (Online)*' and '*Preparing for a Job Interview (Online)*'. These are available in MyHR under 'Development Catalogue' and 'Personal Professional Development'.

There is a case for consideration of additional FTE Senior Technician – Zoology and Ecology (Grade Gen5) positions at Manawatū to be developed outside of this final decision (this has not been included in the above table, as no Manawatū-based Technicians in Zoology & Ecology are proposed to be significantly affected by the Preliminary Decision).

To summarise the above, this final decision means that with respect to SNS:

- Category A: 66.5 FTE (78 headcount) positions for which there is no significant change. Of those, 8.7 FTE (11 headcount) are based in Auckland, the remaining 57.8 FTE (67 headcount) are based in the Manawatū.
- Category B: 31.2 FTE (33 headcount) positions will be disestablished. Of these, 23.0 FTE (24 headcount) are based in Auckland, 8.2 FTE (9 headcount) in the Manawatū.
- Category C: 6 new positions will be created involving 5.5FTE, with the further consideration of an additional technical position (1.0 FTE).

6. Approach to teach-out of qualifications and specialisations that will be discontinued

The support of students currently enrolled in qualifications that will be closed to new enrolments in 2024 is a critical consideration. As stakeholders to this final decision, there will be direct communication with undergraduate and postgraduate students on the outcomes of this final decision.

This section provides a high-level overview of the approach that will be taken.

The qualifications and specialisations that are to discontinue will be closed to new commencements of students for the 2024 academic year (and the programme would be identified as No New Enrolments [NNE] in the Student Management System). All students who have already completed some credits towards a specialisation or qualification will be supported to complete the qualification or a related qualification. Detailed plans will be made on a case-by-case basis and all affected students will be informed of their options.

All students will be provided with options to transfer to another Massey University qualification or to a qualification at another University. Those in qualifications discontinued only on the Auckland campus will also have the option of transferring to the Manawatū campus. Massey University staff will work with staff in other universities to negotiate agreements on credit transfer and permitted variations where applicable. Massey University staff will also support any student who needs a variation in visa to enable a change of location of study.

For some students, there will be limited teachout options at Massey University as follows. The financial situation has restricted the amount of teachout that can be offered. Appointment of fixed term staff will be made to support this teachout. Students will each be provided with more detail in separate communications soon after the release of this final decision.

> **For BE(Hons) students completing Part 4 in 2024**, teachout will be available on the Auckland and Manawatū campus for 2024 only. Some restrictions on course availability will apply. Students not able to complete in that time will need to consider alternative options.
>
> BE(Hons) students in other years, will be supported to transfer to another Massey qualification or to another University to complete their study. Details of the transfer options to each of the other NZ universities proving a BE(Hons) programme have already been provided to students.
>
> For MEngSt students who have completed credits towards the qualification, teachout will be available on the Auckland and Manawatū campus for 2024 only. Some restrictions on course availability will apply. Students not able to complete in that time will need to consider alternative options.
>
> For GDipL&SCM students who have completed credits towards the qualification, teachout will be available for 2024 and 2025 only. Some restrictions on course availability will apply. Students not able to complete in that time will need to consider alternative options.
>
> For PGDipSCM and MSCM students who have completed credits towards the qualification, teachout will be available for 2024 and 2025 only. Some restrictions on course availability will apply. Students not able to complete in that time will need to consider alternative options.
>
> For PGDipQS and MQS students who have completed credits towards the qualification, teachout will be available for 2024 and 2025 only. Some restrictions on course availability will apply. Students not able to complete in that time will need to consider alternative options.

Postgraduate students completing thesis courses in subjects that are to be discontinued will be supported to complete with continued supervision arrangements and, if possible, at their current location. Options will be discussed with students and their current and potential future supervisors to determine an individualised plan for each student which also takes account of the terms of current scholarships, research funding arrangements, and any operational and health and safety requirements for continued fieldwork and laboratory work.

Postgraduate students should note that a variety of options are available and will be considered on a case-by-case basis. This includes recruitment of expertise for the supervisory team from other universities, or from retired Massey staff. Some students may need to move from the Auckland campus to the Manawatū campus to complete their research, but there may also be opportunities

for students to remain at one campus and complete laboratory work at another location during blocks of time under the guidance of supervisors at that location.

Financial assistance for students affected by the Proposal for Change-Preliminary Decision

Financial assistance will be offered to students who need to transfer to another University to complete their studies, or who have had unavoidable costs associated with the planning of their study incurred during the consultation period for the Proposal for Change. This includes reimbursement of fair, reasonable, and demonstrable costs, such as non-refundable deposits.

An application process will be made available soon after the release of this Final Decision. Applications will be assessed on a case-by-case basis and decisions made based on each applicant's personal circumstances.

7. Formation of a new School

The final decision is that a new school will be formed on 3 April 2024 called the School of Food Technology and Natural Sciences, SFTNS. When the Final Decision on the changes to academic delivery activities and staffing levels described herein are put in place for 2024, then both SFAT and SNS are be projected to have the EFTS, academic staff FTE and technical staffing FTE listed in Table 14 and Table 15 below for the retained qualifications delivered by SFAT and SNS respectively.

Table 14. Projected 2024 EFTS, academic staff FTE and technical staffing FTE for the retained qualifications currently delivered by SFAT.

SFAT	2024 EFTS and FTE projected to arise from the changes		
Category	EFTS-supported	Supported by other revenue	Sub-total
EFTS	200.2		200.2
Academic FTE	11.8	12.2	24.0
Technical FTE	4.4	4.4	8.8

Table 15. Projected 2024 EFTS, academic staff FTE and technical staffing FTE for the retained qualifications currently delivered by SNS.

SNS	2024 EFTS and FTE projected to arise from the changes		
Category	EFTS-supported	Supported by other revenue	Sub-total
EFTS	438.2		438.2
Academic FTE	23.0	6.7	29.7
Technical FTE	9.7	1.9	11.6

The EFTS projected to arise from the changes listed in Table 14 and Table 15 are based on the following considerations:

- All the currently earned Distance EFTS in the contributing areas are attributed to the Manawatū campus of delivery;

- 50% of the current undergraduate and postgraduate EFTS in Food Technology at Auckland are assumed to move to the Manawatū campus; and
- 10% of the current undergraduate and postgraduate EFTS in each of: Molecular and Cellular Biology & Microbiology; Ecology, Conservation & Marine Biology; and Zoology at Auckland are assumed to move to the Manawatū campus.

Given the potential for synergies between Chemistry, Microbiology and Food Technology, together with consideration of the size of the maintained academic delivery and staffing levels, the decision is that the maintained parts of SNS and SFAT will merge to form a new College of Sciences school on the Manawatū campus.

Some of the academic management groups will be renamed in alignment with the changes in academic delivery:

- The Chemistry AMG will remain, but incorporate the 100-level undergraduate laboratory teaching activity for 124103 Biophysical Principles (the only Physics course that will be maintained)
- Molecular and Cellular Biology & Microbiology will retain that name;
- The Ecology, Conservation and Marine Biology AMG will merge with the Zoology AMG to form the Zoology and Ecology AMG; and
- The Food, Safety and Quality, Dairy Science & Technology and Nutrition AMG will be renamed as the Food Technology AMG.

7.1 Head of School for the new school

Currently there is a Head of School for each for SNS and SFAT, however as the Head of School in SFAT is a temporary, seconded position, and the incumbent in that position will return to their substantive position, there is only one current Head of School (for SNS) who has a long-term appointment.

Therefore, the current Head of School in SNS will be reconfirmed into the new Head of School position which will occur on 3 April 2024. This is in line with the criteria for reconfirmation and it will provide the newly formed School with consistent leadership.

There are no additional changes in staffing to accompany the formation of the new school within the College of Sciences.

7.2 Name and organisational structure for the new school

The name for the new school is the School of Food Technology and Natural Sciences, SFTNS and it will commence on 3 April 2024. Until this commencement date, business will continue as per normal in the existing two Schools and provide time for affected staff to conclude their notice period.

The following reporting lines will transfer to SFTNS:

- The current SNS Chemistry and Physics reporting line will be renamed 'Chemistry' inclusive of the 0.5 FTE Technician in Physics;
- The current SNS Molecular Biosciences reporting line;
- The current SNS Zoology and Ecology reporting line;
- The current SFAT Food Technology reporting line and constituent teams (Food Product Technology and Food Manufacturing Technology);
- The current SFAT FEAST reporting line will become a team in the Food Technology reporting line; and

- The current SFAT Nutrition Lab reporting line.

These changes will align the revised AMG structures with reporting lines.

A new 'Operational Services Group' reporting line will be formed comprising those currently reporting to the Head of School of SNS in the Mechanical Workshop, the Electronics Workshop, the Research and Teaching Laboratories coordinators, autoclave operator, and the Purchasing Officer and Purchasing Technician positions. One position from the Engineering Workshops in SFAT is also change reporting line to the Operational Services Group.

The new Head of School for SFTNS will determine the appointment of Group Leaders for each of the Chemistry, Food Technology, Molecular Biosciences, and Zoology and Ecology reporting lines after formation of the new school. The organisational chart of those reporting to the Head of School of SFTNS arising from these changes is shown in Figure 3.

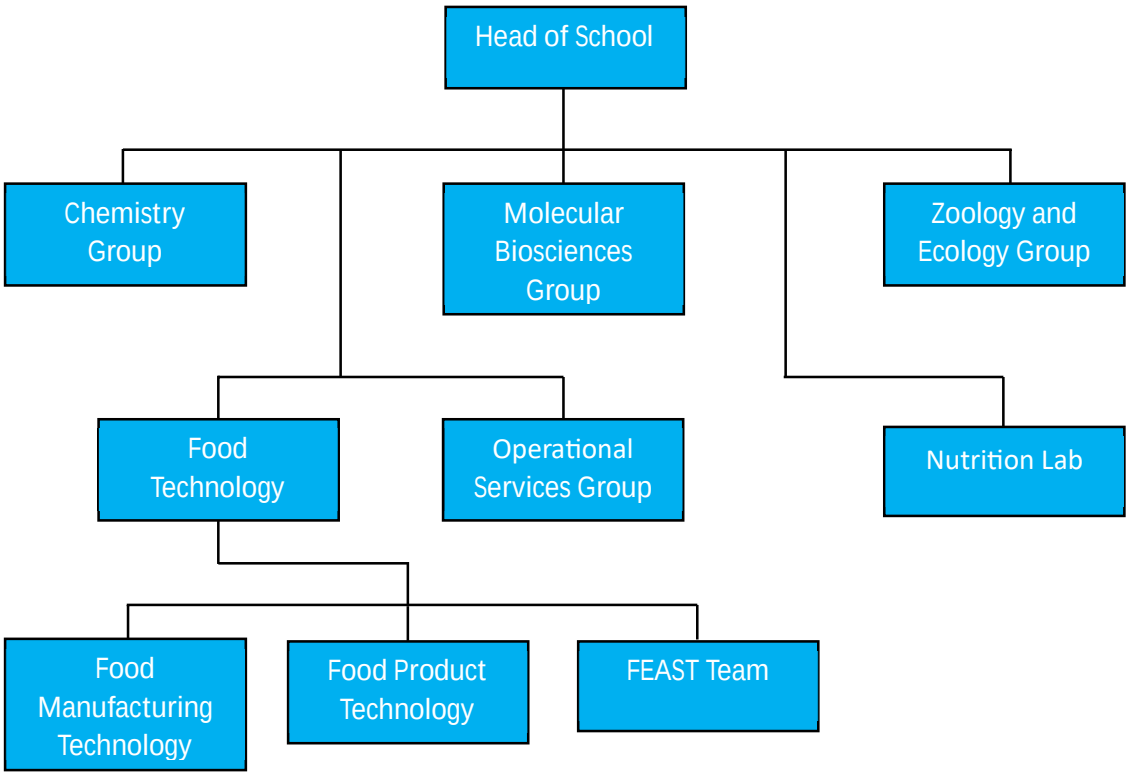

Figure 3. Organisational chart and reporting lines for positions reporting to the Head of School in the new new school SFTNS.

7.3 Changes in reporting lines for SFAT and SNS groups not transferring to SFTNS

A number of current reporting lines to SFAT and SNS will not transfer to SFTNS:

- The SFAT Post Harvest Technology team;
- The SNS Plant Sciences team;
- The Massey Genome Service;
- The MMIC;
- The FoodPilot;

- The MAF Digital Lab, and
- The Biotechnology Group.

The SFAT Post Harvest team and the SNS Plant Sciences team will move to the Agriculture Group in SAE with effect Monday 19 February 2024. This transfer will align these two teams with Horticulture in SAE.

The Massey Genome Service, MMIC and FoodPilot will report to the PVC's Office with effect Monday 15 January 2024. The rationale for these changes in reporting lines is that these units are substantially dependent on generating external revenue (whilst recognising the important roles of these units across teaching and research). The high-level of financial transactional activity is proposed to be best supported by these units reporting to the PVC's Office alongside the financial administrative support.

The MAF Digital Lab budget centre will be renamed the 'Contract Research Unit' and:

- Those in the current MAF Digital Lab will remain in the renamed budget centre;
- Those in the current Biotechnology Group will move to the Contract Research Unit reporting line; and
- The Contract Research Unit reporting line will report to the College of Sciences PVC's Office with effect Monday 15 January 2024.

The rationale for the Contract Research Unit reporting to the PVC's Office is that the staffing levels in this unit are entirely dependent on the prevailing level of external funding to individual projects. Management of the level of staffing and allocation of resources including space utilisation will be best located in the PVC Office.

7.4 Overall changes in EFTS for the proposed new school

There will be a projected reduction in EFTS from 1,116.8 in total in SFAT and SNS for 2023, to 638.4 in the proposed new school for 2024.

7.5 Financial projections for the new school

Table 16 provides a summary of the projected 2024 financial performance for the new school, taking into consideration revisions to the academic delivery and staffing levels. It should be emphasised that a reduction in space utilisation (UFA charges) will be a significant contributor to the financial viability of the future school.

A number of assumptions and operational constraints have been used in modeling the financial projections provided in Table 16; without these changes the new school will not be financially viable. The key assumptions and constraints (noting that the full implementation of these will take some time to fully realise) are:

- Teaching revenue per EFTS remains constant (but does take into account increases in funding);
- Maintenance of the current research revenue per FTE of academic staff;
- Maintenance of the current trading revenue per FTE of academic staff;
- A 40% reduction in the current expenditure on asset-related expenses and depreciation for the proposed retained teaching and research activities at Manawatū; and
- A substantial reduction in the footprint (i.e., UFA) that each AMG currently occupies on the Manawatū campus:
  - Chemistry to reduce current occupancy by 50%;
  - Zoology and Ecology & Conservation to reduce current occupancy by 30%;

- Molecular and Cellular Biology & Microbiology to reduce current occupancy by 50%; and
- Food Technology to reduce current occupancy by 40%.

It is noted that maintaining the current level of research revenue per FTE of academic staff means that the PBRF revenue associated with the FTE of academic positions that are to be disestablished will not be attributed to the new school.

In the case of Food Technology, the UFA charge allocations include the 700 m^2 occupancy for FEAST out of the total of 2,510m^2 for the Food Technology reporting line. It is assumed that the FEAST occupancy will remain unchanged.

These assumptions and constraints indicate that, when the changes are implemented there will be a need to evaluate equipment and instrumentation requirements and the space required to house these items. This may mean the disposal and/or sale of items for which there is insufficient revenue to cover depreciation and operating costs.

Consolidation of the college's professional staff to the College PVC Office has also been taken into consideration. Where these staffing costs previously were identified in each school, from 2024 these costs will be identified in the College PVC Office as expenditure that will be shared across the entire college.

The estimates provided in Table 16 have been developed on the basis that all of the above assumptions and constraints are in place with immediate effect. It is noted however, that each of these changes will have a particular timeline (e.g. disposal and sale of assets, vacating and decommissioning buildings). Consequently, the estimates provided in Table 16 should be viewed as the eventual new financial position for the new school.

Table 16. Projected 2024 financial position for the new school with predicted EFTS and future staffing levels.

	Projected 2024 School finances by reporting line					
Reporting line	Chemistry Group	Molecular Biosciences Group	Zoology & Ecology	Food Technology Group	Operational Services Group	Sub-total
EFTS	132.9	135.2	170.1	200.2	0.0	638.4
Academic FTE	7.6	12.2	9.9	24.0	0.0	53.7
Technical FTE	4.0	4.0	3.6	8.8	7.9	28.3
Revenue						
Teaching	3,157,040	3,270,127	4,312,166	5,211,918	-	15,951,251
Research	1,868,883	2,002,587	898,284	3,868,371	-	8,638,126
Contract & Trading	72,580	95,415	80,735	390,940	-	639,670
Sub-total Revenue	5,098,504	5,368,129	5,291,186	9,471,229	-	25,229,047
Expenditure						
Staff costs	1,423,917	2,104,185	2,008,619	2,964,038	613,910	9,114,670
Consumables	293,726	305,568	473,077	187,169	75,000	1,334,539
Travel	37,716	60,543	49,129	173,452	-	320,840
Depreciation	319,337	151,603	23,550	274,973	20,000	789,463
UFA Charges	814,753	893,565	635,428	1,683,914	201,300	4,228,960
All other costs	1,079,942	1,045,521	885,649	1,744,895	-	4,756,007
Sub-total Expenditure	3,969,390	4,560,985	4,075,452	7,028,441	910,210	20,544,479
Margin						
Total Margin	1,129,113	807,143	1,215,733	2,442,788	(910,210)	4,684,568
Margin as % of income	22%	15%	23%	26%	-	19%
Expected Margin	1,264,993	1,310,913	1,727,289	2,131,680	-	6,399,691
Shortfall in Margin	(135,880)	(503,770)	(511,555)	311,108	(910,210)	(1,715,122)

As shown in Table 16, there would be an overall projected shortfall in margin of approximately $1.7M when the changes are put in place. However, this is substantially less than the projections for SFAT and SNS without any of the changes (Table 3) of approximately $12.2M. Thus, with cessation of the qualifications and specialisations and the consolidation to the Manawatū campus, the projected reduction in EFTS revenue and costs would result in a net overall improvement of approximately $10.5M in the College's ability to meet its operational requirements.

It is noted that the projected overall shortfall of approximately $1.7M effectively forms the level of subsidisation that would be required for the new school. This level of subsidisation would be expected to decrease should increases in enrolments be achieved. Efforts would need to be made to increase the EFTS in all areas in the new school.

8. Process and Timeline

The table below provides the timeline that the University followed in this proposal for change process:

Date	Task
Monday 25 September 2023	Prior release to the union.
Monday 2 October 2023	Release of initial Proposal for Change. First round of consultation commenced.
Thursday 5 October 2023	Consultation with College of Sciences Board.
Wednesday 18 October 2023	Consultation with Academic Board.
Monday 20 November 2023	First round of consultation concluded.
21-26 November 2023	Consideration of feedback received in the first round of consultation.
Monday 27 November 2023	Preliminary Decision released. Second round of consultation commenced.
5pm Friday 8 December 2023	Second round of consultation concluded.
9-13 December 2023	Consideration of feedback received in the second round of consultation.
14 December 2023	Final Decision released
14 December 2023 and ongoing	Implementation (as appropriate).

Consideration will be given to staffing requirements for management of teach-out of current students and the processes of decommissioning and exiting facilities based on the final decisions in this document. Should any short-term employment contracts be required to assist with teach-out or exiting facilities these will be considered and negotiated on a case-by-case basis.

9. Employee Advice, Representation and Support

The information in this section is provided to assist you in understanding who you can contact for advice and representation, as well as support. You are also encouraged to talk to:

- For matters relating to the substance of the Proposal for Change - Final Decision:
  - Professor Ray Geor, Pro Vice-Chancellor (email R.Geor@massey.ac.nz)
- For matters relating to the Proposal for Change – Final Decision and its impact on your individual employment:
  - Senior Human Resources Advisor, Kathryn Tulitt on either extension 83220 or email K.J.Tulitt@massey.ac.nz
- For any additional support you may require in your day-to-day operations, please contact your relevant Head of School:
  - Professor Simon Hall, School of Food and Advanced Technology (email S.B.Hall@massey.ac.nz)
  - Professor Jamie Quinton, School of Natural Sciences (email J.Quinton@massey.ac.nz)

9.1 Advice and Representation

It is acknowledged that at the time of release of this Final Decision, a number of staff who would potentially be impacted by the proposed changes are members of a union. Given this, both the Tertiary Education Union (TEU) and Tertiary Institutes Allied Staff Association (TIASA), who represent affected staff, have been provided with a copy of this Proposal for Change – Final Decision and are available for members to contact should they wish to discuss this with a representative.

For completeness, details for all unions who represent staff members at the University is available on the Massey University sharepoint site here Unions (sharepoint.com).

9.2 Support

If you would like to discuss any concerns confidentially, as part of the University's employee support services, counselling (free of charge) is available to staff through the Employee Assistance Programme (EAP). EAP services can be accessed through 0800 327 669. Additional avenues for support include your own line manager, or the University's chaplaincy services.

10. Conclusion

I would like to thank you for your engagement throughout this process, and the time that you have taken to attend meetings and any feedback you may have provided on the Proposal as the process has progressed. The feedback received has helped form the final decision.

Should you have any questions regarding this final decision or require further support, then please do not hesitate to contact me to discuss further.

Professor Ray Geor
Pro Vice-Chancellor

List of Appendices

Appendix 1: 2022 financials for academic delivery in the six CoS schools and NZIAS and identification of the courses attributed to the SFAT and SNS Academic Management Groups

Appendix 2: Positions in scope for the Proposal for Change

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Appendix 6: Job Descriptions

Appendix 7: Summary of feedback received on the Proposal for Change released on 2 October 2023 and the Preliminary Decision released on 27 November 2023

Appendix 1: 2022 financials for academic delivery in the six CoS schools and NZIAS and identification of the courses attributed to the SFAT and SNS Academic Management Groups

Table 17. Income, expenditure and margin for 2022 for the college's six schools, the VTH and NZIAS, together with expected the expected margin, and shortfall in the margin, based on the expected percentage contributions for each of teaching, research and trading revenue.

School	SAE	SVS (inc. VTH)	SBE	SMCS	SFAT	SNS	NZIAS	Sub-Total for CoS Academic
Income								
Teaching Income	18,345,646	29,313,974	10,624,088	14,249,339	9,677,608	14,229,941	145,957	96,586,552
Research Income								
PBRF Income	4,026,127	3,575,197	333,249	1,111,683	4,288,934	4,019,573	554,676	17,909,439
Income from Research Grants	9,944,170	2,463,591	1,456,552	1,648,508	4,180,723	6,279,918	1,327,214	27,300,676
Total Research Income	13,970,298	6,038,788	1,789,801	2,760,190	8,469,657	10,299,491	1,881,890	45,210,115
Trading Income								
Total Trading Income	1,816,978	7,966,235	22,242	538,402	1,104,997	501,398	75,000	12,025,250
Total Income	34,132,921	43,318,996	12,436,131	17,547,931	19,252,262	25,030,830	2,102,847	153,821,916
Expenses								
Academic Staff Related Expenses	10,274,131	11,979,222	3,103,254	6,475,077	6,044,732	9,448,887	1,361,725	48,687,027
Technical Staff Related Expenses	1,516,495	5,977,509	99,319	-	1,392,469	2,224,758	-	11,210,549
Professional Staff Related Expenses	737,524	2,131,098	117,252	399,629	960,234	558,826	103,878	5,008,441
Asset Related Expenses	184,764	491,715	6,557	29,824	161,749	261,997	-	1,136,607
Depreciation	496,529	750,483	31,854	62,254	1,052,214	1,177,536	30,690	3,601,561
Consumables	2,764,105	3,244,814	36,534	74,517	921,334	1,320,413	1,515	8,363,232
Travel	427,651	180,476	108,707	91,510	165,585	179,204	99,668	1,252,800
Contracted Services	1,312,099	2,104,137	657,043	499,899	354,830	866,280	192,325	5,986,614
Scholarships - Stipends & Fees	2,320,534	641,707	231,156	362,450	1,563,083	1,072,967	324,329	6,516,225
Other Direct Expenses	563,030	916,273	128,687	65,857	537,873	255,247	8,616	2,475,583
UFA Charges	2,355,574	4,836,595	449,441	819,766	4,547,597	4,712,149	111,523	17,832,646
Other Overhead Recoveries	2,253,137	2,390,442	310,824	718,229	737,130	1,467,566	117,863	7,995,190
Total Expenses	25,205,572	35,644,469	5,280,627	9,599,013	18,438,831	23,545,829	2,352,133	120,066,474
Total Margin	8,927,349	7,674,527	7,155,504	7,948,917	813,431	1,485,001	(249,286)	33,755,442
Margin as % of Income	26%	18%	58%	45%	4%	6%	(12%)	22%
Expected Margin	8,400,899	8,852,820	7,330,621	8,614,211	4,003,643	5,707,018	58,383	42,967,595
Shortfall in Margin	**526,450**	**(1,178,293)**	**(175,117)**	**(665,294)**	**(3,190,212)**	**(4,222,017)**	**(307,668)**	**(9,212,153)**
Shortfall as % of Academic & Technical Staff Related Expenses	(4%)	7%	5%	10%	43%	36%	23%	15%
Shortfall as % of UFA Charges	(22%)	24%	39%	81%	70%	90%	276%	52%
Shortfall as % of UFA Charges and Staff Related Expenses	(4%)	5%	5%	9%	27%	26%	21%	12%
Expected Margin % by Activity								
Teaching	45%	30%	69%	60%	40%	40%	40%	
Research	0%	0%	0%	0%	0%	0%	0%	
Trading	8%	0%	0%	12%	12%	3%	0%	

Appendix 2: Positions in scope for this proposal

Table 18. Assignment of combinations of Prefixes and Course Subject Area Descriptions to Academic Management Groups in SFAT and SNS.

School	Prefix	Course Subject Area Description	Academic Management Group, AMG
SFAT	141	Food Technology	Food, Safety and Quality, Dairy Science & Technology, and Nutrition
SFAT	151	Nutritional Science	Food, Safety and Quality, Dairy Science & Technology, and Nutrition
SFAT	228	Engineering	Engineering, Quality Systems & Supply Chain Management
SFAT	228	Technology and Engineering	Engineering, Quality Systems & Supply Chain Management
SFAT	240	Logistics and Supply Chain Management (240P)	Engineering, Quality Systems & Supply Chain Management
SFAT	280	Process and Environmental Technology (142P)	Engineering, Quality Systems & Supply Chain Management
SFAT	280	Process Engineering	Engineering, Quality Systems & Supply Chain Management
SFAT	281	Electronics and Information Engineering (281P)	Engineering, Quality Systems & Supply Chain Management
SFAT	282	Mechatronics and Automation Engineering (282P)	Engineering, Quality Systems & Supply Chain Management
SFAT	287	Industrial Innovation	Engineering, Quality Systems & Supply Chain Management
SFAT	287	Production Technology	Engineering, Quality Systems & Supply Chain Management
SNS	120	Plant Biology	Plant Science & Breeding
SNS	122	Biochemistry	Molecular and Cellular Biology & Microbiology
SNS	123	Chemistry	Chemistry
SNS	123	Engineering	Chemistry
SNS	124	Engineering	Physics
SNS	124	Physics	Physics
SNS	162	Biology	Molecular and Cellular Biology & Microbiology
SNS	196	Biology	Ecology, Conservation & Marine Biology
SNS	196	Ecology	Ecology, Conservation & Marine Biology
SNS	196	Marine Ecology	Ecology, Conservation & Marine Biology
SNS	199	Zoology	Zoology
SNS	203	Genetics	Molecular and Cellular Biology & Microbiology
SNS	232	Ecology	Ecology, Conservation & Marine Biology
SNS	232	Zoology	Zoology
SNS	246	Genetics	Molecular and Cellular Biology & Microbiology
SNS	285	Plant Health	Plant Science & Breeding

Table 19. SFAT positions in scope for the changes proposed in Section 4.

Engineering Group			
Position	Campus	Headcount	FTE
Professor in Electronics, Information & Communication Systems	Auckland	1	1.0
Associate Professor in Computer Engineering/Group Leader for the Engineering Group	Auckland	1	1.0
Associate Professor in Computer Engineering	Auckland	1	1.0
Associate Professor in Product Development	Auckland	1	1.0
Senior Lecturer in Mechatronics and Robotics	Auckland	1	1.0
Senior Lecturer in Mechatronics	Auckland	1	1.0
Senior Lecturer	Auckland	2	2.0
Lecturer in Electronics, Information and Communication Systems	Auckland	1	0.5
Mechanical Workshop Technician	Auckland	1	1.0
Technician - Electronics	Auckland	1	1.0
Professor in Environmental Engineering	Manawatū	1	0.8
Professor in Imaging Systems	Manawatū	1	1.0
Professor of Nanotechnology	Manawatū	1	1.0
Professor and Research Director	Manawatū	1	1.0
Professor	Manawatū	2	1.1
Associate Professor	Manawatū	1	1.0
Senior Lecturer in Mechatronics	Manawatū	1	1.0
Senior Lecturer in Packaging Technology	Manawatū	1	1.0
Senior Lecturer in Project Based Learning	Manawatū	1	1.0
Senior Lecturer in Supply Chain Management	Manawatū	1	1.0
Senior Lecturer	Manawatū	3	3.0
Director - Centre for Organisational Excellence Research	Manawatū	1	0.2
Research Officer	Manawatū	1	1.0
Junior Research Officer	Manawatū	1	0.1
Biotechnology Laboratory Manager	Manawatū	1	1.0
Microbiology Technician	Manawatū	1	0.6
Head Engineering Technician - FoodPilot	Manawatū	1	1.0
Manager and Team Leader	Manawatū	1	1.0
Mechanical Workshop Technician	Manawatū	1	1.0
Electronics Technician	Manawatū	1	1.0

Food Technology Group			
Position	Campus	Headcount	FTE
Professor	Auckland	1	0.7
Auckland Campus and Offshore Delivery Leader	Auckland	1	0.3
Senior Lecturer in Food Product Development and Sensory Science	Auckland	1	1.0
Senior Lecturer in Food Technology	Auckland & Jiangnan	1	1.0
Senior Lecturer	Auckland	3	3.0
Lecturer in Food Technology/Food Engineering	Auckland	1	1.0
Food Technician	Auckland	1	1.0
Laboratory Technician	Auckland	1	1.0
Professor in Food Colloids/Group Leader - Food Technology Group	Manawatū	1	1.0
Professor of Food Safety and Microbiology	Manawatū	1	1.0
Professor of Postharvest Engineering/Team Leader - Post Harvest Technology Team	Manawatū	1	1.0
Professor	Manawatū	2	1.3
Associate Professor in Food Rheology and Colloid Science/Tech / Team Leader - Food Product Technology	Manawatū	1	1.0
Associate Professor	Manawatū	1	0.8
Senior Lecturer in Food Process Engineering	Manawatū & Jiangnan	1	1.0
Senior Lecturer in Food Science and Technology	Manawatū	1	1.0
Senior Lecturer/Team Leader - Food Manufacturing Technology Team	Manawatū	1	1.0
Senior Lecturer	Manawatū	3	2.5
Senior Research Officer	Manawatū	1	0.7
Research Officer in Postharvest Technology	Manawatū	1	1.0
Junior Research Officer	Manawatū	1	1.0
Postdoctoral Fellow - Collagen Research Study	Manawatū	1	0.7
Postdoctoral Fellow	Manawatū	1	1.0
Postharvest Technologist / Technical Infrastructure Manager	Manawatū	1	1.0
Microbiology Technician	Manawatū	1	0.5
SAPU Facility Manager	Manawatū	1	1.0
Research Technician	Manawatū	1	1.0
Technician	Manawatū	1	1.0
Research Associate	Manawatū	1	1.0
Academic Director, Singapore	Singapore	1	1.0
Tutor	Singapore	1	1.0

Direct Reports to Head of School			
Position	Campus	Headcount	FTE
Professor of Food and Bioprocess Engineering	Manawatū	1	0.2
Senior Research Officer	Manawatū	1	0.2
Research Officer	Manawatū	1	0.2
IT Team Leader	Manawatū	1	0.5
Research IT Support Consultant	Manawatū	1	0.5
Data Integrity Consultant	Manawatū	1	0.5
IT Support Specialist	Manawatū	1	1.0
Technician	Manawatū	1	0.5
Business Manager	Manawatū	1	0.5
Head of School	Manawatū	1	0.9
Sub-total		80	67.9

Table 20. SFAT positions in scope for the changes proposed in Section 7.

FEAST			
Position	Campus	Headcount	FTE
Professor	Manawatū	1	1.0
Research Officer	Manawatū	4	4.0
Postdoctoral Fellow	Manawatū	1	1.0
Research Assistant - Sensory & Consumer Science	Manawatū	1	1.0
Laboratory Technician	Manawatū	1	0.6
Research Technician	Manawatū	1	0.6
Project Administrator	Manawatū	1	0.5
Technical Administrator	Manawatū	1	0.5

FoodPilot			
Position	Campus	Headcount	FTE
FoodPilot General Manager	Manawatū	1	1.0
FoodPilot Manager	Manawatū	1	1.0
Technician/Pilot Plant Manager	Manawatū	1	1.0
Technician	Manawatū	1	1.0
Food Technologist	Manawatū	2	2.0
Research and Development Technologist	Manawatū	2	2.0
Research Officer	Manawatū	1	0.1

Nutrition Lab			
Position	Campus	Headcount	FTE
Manager, Nutrition Laboratory	Manawatū	1	0.9
Nutrition Laboratory Technician	Manawatū	1	0.6
Laboratory Technician	Manawatū	3	2.1
Technician - Laboratory	Manawatū	1	1.0
Technician	Manawatū	2	2.0
Technical Officer	Manawatū	1	1.0

Biotechnology Group			
Position	Campus	Headcount	FTE
Professor	Manawatū	1	1.0
MAF Digital Lab			
Position	Campus	Headcount	FTE
Research Officer - Precision Agriculture	Manawatū	1	1.0
Senior Technical Officer	Manawatū	1	1.0
Technical Officer - Precision Agriculture	Manawatū	1	1.0
Sub-total		33	29.0

Table 21. SNS positions in scope for the changes proposed in Section 5.

Chemistry and Physics Group			
Position	Campus	Headcount	FTE
Associate Professor in Chemistry	Auckland	2	2.0
Senior Lecturer in Physics	Auckland	1	1.0
Senior Tutor in Chemistry	Auckland	1	1.0
Technician in Chemistry	Auckland	1	0.5
Technician in Physics	Auckland	1	1.0
Technician	Auckland	1	0.5
Professor in Chemistry	Manawatū	1	1.0
Professor in Physical Chemistry	Manawatū	1	1.0
Associate Professor in Chemistry	Manawatū	2	1.6
Senior Lecturer in Physics	Manawatū	2	2.0
Lecturer in Chemistry	Manawatū	1	1.0
Senior Research Officer in Chemistry	Manawatū	1	1.0
Senior Tutor in Chemistry	Manawatū	1	1.0
Research Officer (Biochemistry)	Manawatū	1	0.8
Postdoctoral Fellow (Synthetic Chemistry)	Manawatū	1	1.0
Postdoctoral Fellow	Manawatū	1	1.0
Senior Technician - Science	Manawatū	1	1.0
Technician	Manawatū	5	3.7

Molecular Biosciences Group			
Position	Campus	Headcount	FTE
Professor of Molecular Biosciences	Auckland	1	1.0
Associate Professor in Molecular Cell Biology	Auckland	2	2.0
Senior Tutor in Molecular Cell Biology	Auckland	1	1.0
Technician (Molecular Cell Biology)	Auckland	1	1.0
Technician	Auckland	1	1.0
Professor in Genomics and Computational Biology	Manawatū	1	0.5
Professor in Microbiology	Manawatū	1	1.0
Associate Professor in Plant Systematics and Evolution	Manawatū	1	1.0
Professor of Molecular Evolution	Manawatū	1	1.0
Associate Professor in Molecular Biology	Manawatū	1	1.0
Associate Professor in Molecular Cell Biology	Manawatū	1	1.0
Associate Professor	Manawatū	1	0.9
Senior Lecturer in Microbiology	Manawatū	1	1.0
Senior Lecturer in Molecular Cell Biology	Manawatū	3	2.6
Senior Lecturer in Plant Genetics	Manawatū	1	0.2
Senior Lecturer in Plant Science	Manawatū	1	1.0
Senior Tutor in Molecular Cell Biology	Manawatū	1	1.0
Research Officer in Molecular Cell Biology	Manawatū	1	0.6
Junior Research Officer - Molecular Biosciences	Manawatū	1	1.0
Junior Research Officer	Manawatū	2	1.8
Postdoctoral Fellow in Molecular Cell Biology	Manawatū	1	1.0
Postdoctoral Fellow	Manawatū	1	1.0
Teaching Technician Manager	Manawatū	1	1.0
Technician	Manawatū	8	7.5
Research Technician in Molecular Biology	Manawatū	2	2.0

Zoology and Ecology Group			
Position	Campus	Headcount	FTE
Professor of Behavioural Ecology	Auckland	1	1.0
Professor in Zoology	Auckland	1	1.0
Professor	Auckland	1	1.0
Associate Professor in Zoology and Ecology	Auckland	1	1.0
Senior Lecturer in Zoology and Ecology	Auckland	3	3.0
Senior Tutor in Zoology and Ecology	Auckland	1	1.0
Research Officer (Molecular Ecology)	Auckland	1	0.6
Research Officer in Zoology and Ecology	Auckland	2	1.6
Research Officer	Auckland	1	1.0
Postdoctoral Fellow (Molecular Ecology)	Auckland	1	1.0
Technician (Zoology and Ecology & Conservation)	Auckland	2	2.0
Technician	Auckland	1	1.0
Research Technician (Evolutionary Biology)	Auckland	4	2.5
Research Assistant (Molecular Ecology)	Auckland	1	1.0
Professor in Ecology	Manawatū	1	1.0
Professor in Evolutionary Biology	Manawatū	1	0.7
Professor in Evolutionary Ecology	Manawatū	1	0.7
Professor in Wildlife Biology	Manawatū	1	1.0
Professor in Zoology	Manawatū	1	1.0
Associate Professor in Zoology and Ecology	Manawatū	1	1.0
Senior Lecturer in Ecology and Zoology	Manawatū	1	1.0
Senior Lecturer in Zoology and Ecology	Manawatū	2	2.0
Research Officer in Zoology and Ecology	Manawatū	1	0.5
Technician	Manawatū	3	2.6

Massey Genome Service			
Position	Campus	Headcount	FTE
Director - Academic Centre	Manawatū	1	0.1
Laboratory/Quality Assurance Manager - MGS	Manawatū	1	1.0
Technician - Massey Genome Service	Manawatū	1	1.0

Manawatū Microscopy and Imaging Centre (MMIC)			
Position	Campus	Headcount	FTE
Director - Manawatu Microscopy and Imaging Centre (MMIC)	Manawatū	1	0.4
Microscopy Technician	Manawatū	1	1.0
Technician	Manawatū	1	1.0

Direct Reports to Head of School			
Position	Campus	Headcount	FTE
Research and Teaching Laboratories Operations Co-ordinator	Auckland	1	1.0
Research and Teaching Laboratories Operations Coordinator	Manawatū	1	0.4
Research and Teaching Laboratories Safety Operations Coordinator	Manawatū	1	0.5
Electronic Services Manager	Manawatū	1	1.0
Electronic Services Technician	Manawatū	1	1.0
Engineering Services Manager	Manawatū	1	1.0
Purchasing Officer	Manawatū	1	1.0
Purchasing Technician	Manawatū	1	1.0
Head of School of Natural Sciences	Manawatū	1	1.0
Sub-total		111	98.7

Appendix 3: General Approach to the analysis of academic delivery

Analysis of Financial Position

The financial data provided in Table 3 of the main body of the Proposal for Change is analysed in greater detail for the School of Food and Advanced Technology (SFAT) and the School of Natural Sciences (SNS) in Appendices 4 and 5 below, respectively. Estimates are made of revenue and expenditure attribution by Academic Management Group (AMG) and campus of operation for each school. Some of the revenue and expenditure items are directly attributable to each combination of AMG and campus of delivery (as in the case of EFTS in Auckland and Manawatū offerings, location of salary costs, and space charges); others are not readily categorised and estimates of attribution are made. The need for this approach is a result of the current financial systems not separating costs and revenues by these parameters. Consequently, the approach is to provide an *estimate* of the *relative* financial issues for each combination of AMG and campus to inform the proposal. It is important to note that while the precision of cost-revenue attribution to each AMG and campus combination is not absolute, the net financial position is accurate and indicates that each School has substantial financial issues that require resolution.

Application of the No & Low Enrolment Policy and Procedures

The No & Low Enrolment Policy and Procedures provides criteria for the EFTS required at qualification, specialisation and course level.

The NLEP EFTS threshold definitions are reproduced in Table 22 below.

The analyses rely on EFTS. It is important to note that the No and Low Enrolments Procedures (NLEP) relate to the EFTS earned by the University as a whole for qualifications and specialisations, while the resourcing of the delivery, and financial considerations, necessarily relate to the subset of EFTS earned by a School for the courses delivered by that School.

An analysis of all the college's qualifications and specialisations has been undertaken with respect to the NLEP and provided to college members (link here). This analysis, which has assessed current year EFTS together with trends over the period 2018 – 2022, has been used to inform the considerations in this document.

Table 22. NLEP EFTS thresholds for qualifications, specialisations and courses.

Undergraduate	Low enrolments are under the threshold stated below
Course	7.5 EFTS per offering (100-level) 5.0 EFTS per offering (200-level) 2.5 EFTS per offering (300-level and higher)
Specialisation at undergraduate level per location	30 EFTs per academic year
Qualification	Overall University EFTS, not College-based EFTS and excludes those that are only used as exit qualifications
Sub-degree	20 EFTS per academic year
Undergraduate Certificate	20 EFTS per academic year
Undergraduate Diploma	20 EFTS per academic year
Bachelor's Degree 3 years	50 EFTS per academic year
Bachelor's Degree with Honours 4 years	65 EFTS per academic year
Bachelor's Degree 5 years	80 EFTS per academic year
Graduate Certificate	20 EFTS per academic year
Graduate Diplomas	20 EFTS per academic year
Nested Undergraduate Diploma and Bachelor's degree	60 EFTS per academic year
Postgraduate	Low enrolments are under the threshold stated below
Course	2.5 EFTS per course offering (700- and 800-level)
Specialisation	5 EFTS per academic year
Qualification	Overall University EFTS, not College-based EFTS and excludes those that are only used as exit qualifications
Bachelor's Degree (Hons)	15 EFTS per academic year
Postgraduate Certificate	15 EFTS per academic year
Postgraduate Diploma	15 EFTS per academic year
Master's Degree	15 EFTS per academic year
Nested Postgraduate Diploma and Master's degree	20 EFTS per academic year Those qualifications with unique courses cannot be included as nested qualifications. Normally, no more than two nested qualifications can be combined at the postgraduate level when assuming a combined total of EFTS from both qualifications.

Application of the Digital Plus Policy

The Digital Plus Policy (link here) is the University's strategic approach to the management of its academic footprint, specifically the removal of duplication of internal teaching delivery except in circumstances where there is financial justification for delivery on more than one physical campus. The 'plus' refers to an extension of this internal delivery, if appropriate, to include high-quality online delivery to internal students that is purpose-designed for online study.

Where duplicate offerings are currently delivered by SNS and SFAT, there is consideration of whether those duplicate offerings are financially viable. Where the analysis is that separate offerings are not financially viable, consideration is then given to determining the campus to which the offerings should be consolidated.

Consideration of EFTS

The source of EFTS data is the University's RAPID data system that, in turn, sources student enrolment data recorded in the Student Management System (SMS).

Income for offshore deliveries (e.g., at Jiangnan University and at Singapore Institute of Technology) are included as trading revenue and thus EFTS for these offerings are not included in the teaching component of financial reporting.

At the time of preparing this document, 'Final EFTS' data are known for 2023 Semester One, Semester Two and Double Semester courses. For the financial analysis, estimates have been made for 2023 Summer School courses based on the Final EFTS for Summer School in 2022.

EFTS are summated by AMG as determined by course prefixes and Course Subject Area Descriptions (as recorded in the Curriculum Management System and reported by RAPID). Table 18 in Appendix 1 lists the mapping of course prefixes and Course Subject Area Descriptions to the AMGs relevant to SFAT and SNS.

Where there is recognised 'cross-teaching' for academic staff in one AMG teaching into courses in a different AMG, this is accounted for through transfer of EFTS between those AMGs. Prime examples include the teaching of the Physics AMG course 124103 Biophysical Principles by Mathematics staff in SMCS and by Chemistry staff in SNS, and the teaching of the Veterinary Science, Studies & Medicine AMG course 227106 Veterinary Biochemistry by Molecular and Cellular Biology & Microbiology staff in SNS.

The focus of the analyses is on the campus of operations (i.e., the physical location of staff and infrastructure) for each AMG in SFAT and SNS. Where an AMG has gained Distance EFTS there is a need to estimate the distribution of those EFTS to the Auckland and Manawatū campus of operations. Estimates of the attributions of Distance EFTS to the Auckland and Manawatū campuses of operations for SFAT and SNS have been made on the basis of the academic staff involved in the delivery of those courses.

Application of student to staff ratios

SSRs for academic staff positions

Since 2019 CoS has utilised student to staff ratios, SSRs (the ratio of EFTS to FTE), as one part of planning the delivery of teaching and assessing affordability. As signaled in previous communications, there is a need to review and revise SSRs over time in response to changes in the operating environment (e.g., levels of funding and costs). In early 2023, the College Executive Group revised the SSRs that had been in place from 2019. Table 23 lists the CoS-set SSRs by TEC SAC (student achievement category) categories that are applied across the college for 2023, together with the previous values. Note that not all these SAC categories are relevant to the teaching delivered by SFAT and SNS.

It is the 2023 values that are utilised in this document for estimating the EFTS-supported academic staff FTE for SFAT and SNS.

Table 23. CoS-set SSRs by TEC SAC category for 2023 together with the previous values that operated for the 2020 to 2022 academic years.

SAC Category	SSR by year	
	2020-2022	2023-
A2 and A3 - Mathematics, Statistics	25	25
B2 and B3 - Computer Science, Information Technology	20	25
C2 and C3 - Construction	20	25
H2 and H3 - Agriculture, Horticulture	13	17
J2 and J3 - Agribusiness, Quality Systems, Logistics	25	25
N2 and N3 - Engineering, Food Technology	16	18
Q2 - Veterinary Science (in BVSc only)	7.5	7.5
Q3 - Veterinary Science	18	20
V2 and V3 - Experimental Sciences	18	20
All PhD and ≥90 credit masters theses	14	14

Technical staff positions

CoS has not routinely adopted methodologies for establishing sustainable staffing levels for technical staff positions. Indeed, in some areas, where academic staffing FTE have declined in accord with SSRs set for those subject areas, the level of technical staffing has not been addressed.

The original Proposal for Change and the subsequent Preliminary Decision described application of SSRs to technical staff positions in a similar manner to that for establishing academic staffing levels.

Subsequent feedback, and further analysis in response to that feedback, in particular regarding workload and recognition of the frequency with which laboratories at different levels need to operate in the same subject area, has meant that rigid SSRs were not incorporated in this final decision.

Appendix 4: Detailed analysis of the academic delivery by SFAT

Financial situation

The overall shortfall in expected margin for SFAT is projected to be approximately $4.5M for 2023. Irrespective of the margin, SFAT is projected to expend only slightly less than it will receive as revenue (by approximately 1%, as was similarly the case in 2022, seeTable 24). Table 25 provides the projected estimates by AMG and campus for 2024 based on a continuation of present activities. Each of the four combinations of AMG and campus of operations are estimated to contribute to the shortfalls in 2023 and 2024, and for the school to have expended all revenues received; this indicates that this school has sustained an inability to contribute to any of the operating costs of the wider University.

It should be noted that no attempt has been made to account for the revenue and costs of Manawatū staff teaching into and travelling to the Auckland campus offerings and vice versa for Food, Safety and Quality, Dairy Science & Technology, and Nutrition AMG courses.

Table 24. 2023 financial forecasts for the SFAT budget centre by AMG and campus of delivery.

	Estimation of 2023 revenues and costs by AMG & Campus of Operations						
Academic Management Group	Engineering and QS & SCM		Food, Safety and Quality, Dairy Science & Technology, and Nutrition		SFAT AMG	Auckland Campus	Manawatū Campus
Campus of operation	Auckland	Manawatū	Auckland	Manawatū	Sub-total	Sub-total	Sub-total
Income							
Teaching Income							
Total Teaching Income	2,744,019	3,554,208	1,362,994	4,063,899	11,725,120	4,107,013	7,618,107
Research Income							
PBRF Income	552,031	1,923,453	265,213	1,552,243	4,292,940	817,244	3,475,696
Income from Research Grants	304,755	1,313,762	150,401	1,494,043	3,262,960	455,155	2,807,805
Total Research Income	856,786	3,237,215	415,614	3,046,286	7,555,901	1,272,399	6,283,501
Trading Income							
Total Trading Income	148,086	310,109	121,953	400,703	980,851	270,039	710,812
Total Income	3,748,890	7,101,532	1,900,561	7,510,888	20,261,871	5,649,451	14,612,420
Expenses							
Academic Staff Related Expenses	996,728	2,082,687	1,177,080	2,484,290	6,740,785	2,173,808	4,566,977
Technical Staff Related Expenses	180,098	515,035	132,316	453,353	1,280,802	312,414	968,388
Professional Staff Related Expenses*	235,685	297,458	110,620	320,834	964,598	346,305	618,293
Asset Related Expenses	15,776	35,256	13,170	41,841	106,042	28,946	77,097
Depreciation	199,213	306,937	102,625	458,289	1,067,064	301,838	765,226
Consumables	111,741	141,029	52,446	152,112	457,329	164,188	293,141
Travel	47,470	99,408	39,093	128,449	314,420	86,563	227,857
Contracted Services	23,235	100,162	11,467	113,907	248,771	34,701	214,069
Scholarships - Stipends & Fees	69,861	301,163	34,477	342,490	747,992	104,339	643,653
Other Direct Expenses	73,616	92,911	34,552	100,212	301,291	108,168	193,123
UFA Charges	1,350,079	1,714,577	645,429	1,462,063	5,172,147	1,995,507	3,176,640
Other Overhead Recoveries	231,673	292,395	108,737	315,373	948,178	340,410	607,768
PVC Office cost attribution	68,852	153,869	57,476	182,608	462,805	126,329	336,477
SFAT central cost recoveries	116,068	395,225	54,477	264,602	830,372	170,545	659,827
Total Expenses	3,720,096	6,528,114	2,573,965	6,820,422	19,642,597	6,294,060	13,348,537
Total Margin	28,795	573,418	(673,404)	690,466	619,275	(644,609)	1,263,884
Margin as % of Income	1%	8%	-35%	9%	3%	-11%	9%
Expected Margin	1,115,378	1,458,896	559,832	1,673,644	4,807,750	1,675,210	3,132,540
Shortfall in Margin	**(1,086,583)**	**(885,478)**	**(1,233,236)**	**(983,178)**	**(4,188,475)**	**(2,319,819)**	**(1,868,657)**
Shortfall as % of Academic & Technical Staff Related Expenses	92%	34%	94%	33%	52%	93%	34%
Shortfall as % of UFA Charges	80%	52%	191%	67%	81%	116%	59%
Shortfall as % of UFA Charges and Staff Related Expenses	43%	21%	63%	22%	32%	52%	21%
Expected Margin % by Activity							
Teaching	40%	40%	40%	40%	40%	40%	40%
Research	0%	0%	0%	0%	0%	0%	0%
Trading	12%	12%	12%	12%	12%	12%	12%

* To be transferred for the most part to the PVC's Office in 2024

Table 25. 2024 financial projections for the SFAT budget centre by AMG and campus of delivery.

	Estimation of 2024 revenues and costs by AMG & Campus of Operations						
Academic Management Group	Engineering and QS & SCM		Food, Safety and Quality, Dairy Science & Technology, and Nutrition		SFAT AMG	Auckland Campus	Manawatū Campus
Campus of operation	Auckland	Manawatū	Auckland	Manawatū	Sub-total	Sub-total	Sub-total
Income							
Teaching Income							
Total Teaching Income	2,993,590	3,877,467	1,486,960	4,433,515	12,791,531	4,480,550	8,310,981
Research Income							
PBRF Income	552,031	1,923,453	265,213	1,552,243	4,292,940	817,244	3,475,696
Income from Research Grants	314,812	1,357,116	155,364	1,543,346	3,370,638	470,176	2,900,463
Total Research Income	866,843	3,280,569	420,577	3,095,589	7,663,578	1,287,420	6,376,159
Trading Income							
Total Trading Income	169,540	303,178	139,621	390,940	1,003,279	309,161	694,117
Total Income	4,029,973	7,461,214	2,047,158	7,920,044	21,458,388	6,077,131	15,381,257
Expenses							
Academic Staff Related Expenses	1,015,146	1,811,337	1,198,829	2,156,166	6,181,477	2,213,975	3,967,502
Technical Staff Related Expenses	120,325	352,810	102,001	393,755	968,891	222,326	746,565
Professional Staff Related Expenses*	245,268	301,363	120,729	344,816	1,012,176	365,997	646,179
Asset Related Expenses	17,025	33,400	14,592	42,318	107,336	31,617	75,719
Depreciation	199,213	306,937	102,625	458,289	1,067,064	301,838	765,226
Consumables	114,620	140,835	56,420	161,142	473,018	171,041	301,977
Travel	54,347	97,186	44,757	125,319	321,609	99,104	222,505
Contracted Services	24,002	103,468	11,845	117,666	256,980	35,847	221,134
Scholarships - Stipends & Fees	72,167	311,102	35,615	353,792	772,676	107,782	664,894
Other Direct Expenses	75,513	92,783	37,170	106,161	311,627	112,683	198,944
UFA Charges	1,494,537	1,898,037	714,489	1,618,504	5,725,567	2,209,026	3,516,541
Other Overhead Recoveries	237,642	291,993	116,976	334,095	980,706	354,618	626,088
PVC Office cost attribution	75,524	148,170	64,735	187,730	476,158	140,258	335,900
SFAT central cost recoveries	115,255	390,351	56,732	268,635	830,972	171,987	658,985
Total Expenses	3,860,582	6,279,772	2,677,517	6,668,387	19,486,258	6,538,099	12,948,159
Total Margin	169,391	1,181,442	(630,359)	1,251,656	1,972,130	(460,968)	2,433,098
Margin as % of Income	4%	16%	-31%	16%	9%	-8%	16%
Expected Margin	1,217,781	1,587,368	611,538	1,820,319	5,237,006	1,829,319	3,407,687
Shortfall in Margin	**(1,048,390)**	**(405,926)**	**(1,241,897)**	**(568,662)**	**(3,264,876)**	**(2,290,288)**	**(974,588)**
Shortfall as % of Academic & Technical Staff Related Expenses	92%	19%	95%	22%	46%	94%	21%
Shortfall as % of UFA Charges	70%	21%	174%	35%	57%	104%	28%
Shortfall as % of UFA Charges and Staff Related Expenses	40%	10%	62%	14%	25%	49%	12%
Expected Margin % by Activity							
Teaching	40%	40%	40%	40%	40%	40%	40%
Research	0%	0%	0%	0%	0%	0%	0%
Trading	12%	12%	12%	12%	12%	12%	12%

Engineering qualifications and specialisations

Engineering at Massey University is dominated by the delivery of the Bachelor of Engineering with Honours, BE(Hons), from both the Auckland and Manawatū campuses (there is no Distance provision), followed by the Master of Engineering, ME, the Master of Engineering Studies, MEngSt, and doctoral-level research in the PhD. The delivery of the ME, MEngSt and PhD in Engineering is reliant on the delivery of the BE(Hons) at each location. In the case of the MEngSt there is a direct dependence given that the 700-level courses in this qualification are also used in the BE(Hons). Consequently, the primary level for analysis of Engineering is for the BE(Hons) and the contributing specialisations.

Table 26 provides the all-of-University EFTS data for enrolments in the Engineering qualifications and specialisations delivered at the Auckland and Manawatū campuses during the period 2018 – 2023. It is noted that there are some EFTS reported for delivery locations where the qualification is not available. These represent students enrolled in the qualification taking courses at other locations.

Table 26. All-of-University EFTS for the Engineering qualifications and specialisations by campus of course enrolment for 2018-2023. Where applicable, EFTS from previously discontinued qualifications/specialisations (NNE) are included.

Bachelor of Engineering with Honours, BE(Hons)

Delivery Location	Programme Title	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Engineering with Honours		151.875	141.875	93.375	82.75	72.375	79.875
Manawatū	Bachelor of Engineering with Honours		117.5	101.875	98.875	98.25	89.5	94
Distance	Bachelor of Engineering with Honours		2.125	1.625	3.875	3.625	4.625	4.375
Grand Total			271.5	245.375	196.125	184.625	166.5	178.25

Chemical and Bioprocess Engineering

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Engineering with Honours	Chemical and Bioprocess Engineerin		3.25	5.5	4.25	1.5	2.125	1.75
Manawatū	Bachelor of Engineering with Honours	Chemical and Bioprocess Engineerin		36.5	26.25	26.75	32.875	27	26.875
Distance	Bachelor of Engineering with Honours	Chemical and Bioprocess Engineerin		0.5	0.25	0.625	0.125	0.5	0.25
Grand Total				40.25	32	31.625	34.5	29.625	28.875

Electronics and Computer Engineering

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Engineering with Honours	Electronics and Computer Engineeri		26.125	21.125	10.5	8.5	6.375	5
Manawatū	Bachelor of Engineering with Honours	Electronics and Computer Engineeri		9	6.125	2.125	1.125	1.625	0.25
Distance	Bachelor of Engineering with Honours	Electronics and Computer Engineeri			0.125	0.125	0.5	0.75	0.125
Grand Total				35.125	27.375	12.75	10.125	8.75	5.375

Mechatronics

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Engineering with Honours	Mechatronics		106	100.625	67.5	64	58.5	71.75
Manawatū	Bachelor of Engineering with Honours	Mechatronics		63.375	61.125	62.375	59.25	57.625	64.75
Distance	Bachelor of Engineering with Honours	Mechatronics		0.375	0.375	2.875	2.5	2.75	3.625
Grand Total				169.75	162.125	132.75	125.75	118.875	140.125

Master of Engineering, ME

Delivery Location	Programme Title	NNE	2018	2019	2020	2021	2022	2023
Auckland	Master of Engineering		5.5	3.5	4.5	7	2	2.5
Manawatū	Master of Engineering		8	4	5.5	15.5	15.5	7
Distance	Master of Engineering		0.5				2.5	
Grand Total			14	7.5	10	22.5	20	9.5

Master of Engineering Studies, MEngSt

Delivery Location	Programme Title	NNE	2018	2019	2020	2021	2022	2023
Auckland	Master of Engineering Studies		9.25	17.125	19	6	5.125	15.875
	Postgraduate Diploma in Engineering		0.75					
Auckland Total			10	17.125	19	6	5.125	15.875
Manawatū	Master of Engineering Studies		8.875	5.125	11	2.125	0.25	1.375
	Postgraduate Diploma in Engineering		0.125					
Manawatū Total			9	5.125	11	2.125	0.25	1.375
Distance	Master of Engineering Studies		1.625	0.5	0.625	0.25		0.5
Distance Total			1.625	0.5	0.625	0.25		0.5
Grand Total			20.625	22.75	30.625	8.375	5.375	17.75

Chemical and Bioprocess Engineering

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Master of Engineering	Chemical and Bioprocess Engineerin		0.5	1	0.5			
Manawatū	Master of Engineering	Chemical and Bioprocess Engineerin		2.5		1	2.5	5	3.5
Distance	Master of Engineering	Chemical and Bioprocess Engineerin						0.5	
Grand Total				3	1	1.5	2.5	5.5	3.5

Electronics and Computer Engineering

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Master of Engineering	Electronics and Computer Engineeri		0.5	1	2	3	1	0.5
	Master of Engineering Studies	Electronics and Computer Engineeri		3.625	7.875	8.25	1.125	3.75	4.625
Auckland Total				4.125	8.875	10.25	4.125	4.75	5.125
Manawatū	Master of Engineering	Electronics and Computer Engineeri		2	2.5	0.5	1	1	
	Master of Engineering Studies	Electronics and Computer Engineeri		0.875	1	3.125			
Manawatū Total				2.875	3.5	3.625	1	1	
Distance	Master of Engineering	Electronics and Computer Engineeri						1	
	Master of Engineering Studies	Electronics and Computer Engineeri				0.125			
Distance Total						0.125		1	
Grand Total				7	12.375	14	5.125	6.75	5.125

Mechatronics

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Master of Engineering	Mechatronics		4.5	1.5	2	4	1	2
	Master of Engineering Studies	Mechatronics		3.625	8.75	10.75	4.875	1.375	6.625
Auckland Total				8.125	10.25	12.75	8.875	2.375	8.625
Manawatū	Master of Engineering	Mechatronics		3	1	4	12	9.5	3.5
	Master of Engineering Studies	Mechatronics		2	3	0.5	0.875	0.25	1
Manawatū Total				5	4	4.5	12.875	9.75	4.5
Distance	Master of Engineering	Mechatronics		0.5				1	
	Master of Engineering Studies	Mechatronics			0.125		0.125		
Distance Total				0.5	0.125		0.125	1	
Grand Total				13.625	14.375	17.25	21.875	13.125	13.125

Application of the No and Low Enrolments Procedures to the BE(Hons)

The NLEP calls for four-year bachelor's degrees with Honours to have at least 65 EFTS in an academic year, and undergraduate specialisations to have at least 30 EFTS per academic year at each delivery location.

- At the qualification-level, the BE(Hons) exceeds the threshold; and
- At the specialisation and course levels:
    - The Auckland-only Electronics and Computer Engineering specialisation is below the threshold, and 18 of 26 courses in its schedule do not meet the course threshold;
    - The Manawatū-only Chemical and Bioprocess Engineering specialisation is close to meeting the threshold, but has 25 of 34 courses in the schedule that do not meet the course threshold; and
    - The Mechatronic specialisation exceeds the threshold at each of the Auckland and Manawatū campuses but has 18 of 27 courses at AKL and 21 of 27 courses at MTU that do not meet the course threshold.

Application of the NLEP would indicate that:

- The Auckland-only Electronics and Computer Engineering specialisation would discontinue;
- The Manawatū-only Chemical and Bioprocess Engineering specialisation, while being close to the specialisation threshold, but with the large number of courses not meeting the course threshold, would discontinue; and
- The Mechatronics specialisation at each campus could continue, provided the enrolments could increase in those courses not meeting the threshold.

Taken together, application of the NLEP to the BE(Hons) would suggest that this programme become a single-specialisation qualification with Mechatronics being that specialisation.

Application of the No and Low Enrolments Procedures to the ME and MEngSt

The NLEP calls for postgraduate master's qualifications to have 15 EFTS per academic year and 5 EFTS per year for each specialisation.

- At the qualification-level:
    - the ME does not meet the threshold; and
    - the MEngSt meets the threshold at AKL but not at MTU.
- At the specialisation level:
    - Chemical and Bioprocess Engineering in the ME does not meet the threshold;
    - Electronics and Computer Engineering Mechatronics across the ME and MEngSt just meets the threshold; and
    - Mechatronics across the ME and MEngSt meets the threshold at AKL and is near threshold at MTU.

Application of the NLEP would indicate that:

- The ME would discontinue, and
- Taking into account the loss of specialisation EFTS in the ME:
    - Electronics and Computer Engineering would discontinue; and
    - Mechatronics would be maintained.

Application of the Digital Plus Policy to the Engineering qualifications

Consequently, application of the Digital Plus Policy requires consideration of the campus to which Engineering would be consolidated. Given the application of the NLEP indicates the discontinuation of all but the Mechatronics specialisation in the BE(Hons) and MEngSt, this consideration requires recognition that the BE(Hons) would be confined to the delivery of the BE(Hons) Mechatronics specialisation. Further, given the utilisation of 700-level taught course from the BE(Hons) in the MEngSt, it is only viable to consider co-location of the two qualifications.

A further consideration under the Digital Plus Policy is online distance delivery of engineering qualifications. In the case of the BE(Hons), the prospect of developing and delivering an online distance delivery is not considered viable given the curriculum requirement for extensive and integrated laboratory and workshop training.

In the subsequent analyses, it was assumed there would be no transfer of EFTS from the Auckland campus to the Manawatū campus; the assumption being that those students would choose to stay in Auckland for their University studies.

Consideration of enrolments by campus

While the EFTS in the BE(Hons) Mechatronics specialisation were similar at each of the two campuses in 2020, over the last two years there have been progressively more EFTS at Auckland. In contrast, EFTS in the MEngSt Mechatronics specialisation have varied year-by-year on each campus.

Consideration of buildings and usable floor area (UFA)

At Auckland, Engineering is delivered from the Albany Village. This is leased accommodation and that lease agreement completes at the end of 2026. There are no current plans for either the renewal of that lease or provision of alternative space. Given that the University has a strategic objective to decrease UFA, the continuation of additional leased space would not be favourable. It is noted that the UFA occupied by Engineering in the Albany Village exceeds the space required. Consequently, considerable savings could be made either by releasing unused space in the Albany Village back to the University and/or departing the Albany Village and occupying a much smaller footprint on the main East Precinct. It is noted that there would be development costs for accommodating workshop facilities on the East Precinct, once suitable space had been identified.

At the Manawatū campus, Engineering is delivered from the Riddet Complex. The school is scheduled to cease occupying parts of the Riddet C building due to those parts being identified as earthquake prone. This means that prior to this analysis the footprint of Engineering was already anticipated to decrease substantially.

Consideration of equipment and other facilities

There is a marked disparity of equipment availability and other facilities between the two campuses. The teaching laboratories and workshops at Auckland are small and have been confined by operating in a far from purpose-built leased accommodation. The ability for those Auckland facilities to accommodate any substantial increase in student numbers is not assured. In contrast, the laboratory and workshops at the Manawatū campus are extensive and better equipped, but arguably too extensive in terms of both space and the level of equipment for the number of current students.

There would be a need to review the equipment and other facilities in light of changes to the accommodation in Riddet C Building.

Proximity to similar and related infrastructure and technical support

Currently the delivery of Engineering at Auckland is isolated and is unable to develop synergies in the current delivery of the Food Technology qualifications within the school, or with the delivery from some of the college's other schools on that campus, the School of Natural Sciences and the School of Built Environment.

In contrast, Engineering at the Manawatū campus operates within a structure integrated with Food Technology, with interactions with the School of Agriculture and Environment, and the School of Natural Sciences.

Application of Student to Staff Ratios, SSRs

Table 27 and Table 28 list SFAT-earned EFTS at Auckland and Manawatū respectively for the BE(Hons) and MEngSt Mechatronics specialisations at each campus, together with the EFTS for all PhD Engineering students at that campus. Note that the tables list the EFTS earned by SFAT in the delivery of the BE(Hons). This is typically approximately 70% of the total EFTS for the qualification with the other 30% of EFTS being delivered by other schools.

The tables also indicate the EFTS-supported academic staff FTE based on the current weighted SSR of 16.7 for Engineering. The 2023 EFTS would support 3.7 FTE of academic staffing if the engineering qualifications were consolidated to the Auckland campus, or 4.4 FTE of academic staffing if consolidation was to the Manawatū campus. If consolidated to either campus, this level of staffing would be insufficient to deliver up to eighteen 15-credit 100- to 700-level Engineering-specific courses that are not utilised by any other qualifications, and to supervise PhD research. It is estimated that at least 10.5 FTE of academic staff (i.e., 3-4 courses delivered per FTE) and 3.0 FTE of technical staff would be required at either campus to enable delivery of the required courses, to operate as a standalone campus operation, and to provide resilience, breadth of staff capabilities, together with the ability to sustain research activities. As the further academic staff FTE would be unfunded, such a subsidisation would have to be a strategically supported decision by the college, and given the college's broader financial problems, by the University.

Table 27. Supported staffing at the Auckland campus for BE(Hons) and MEngSt Mechatronics specialisations together with the PhD Engineering, based on application of SSRs to 2023 SFAT-earned EFTS. The indicated supported FTE based on the current weighted SSR of 16.7 are listed.

Qualification		Specialisation	Campus/ Mode	2023 EFTS
Bachelor of Engineering with Honours	BE(Hons)	Mechatronics	AKL	50.2
Master of Engineering Studies	MEngSt	Mechatronics	AKL	6.6
Doctor of Philosophy	PhD	Engineering	AKL	4.6
Sub-total			AKL	61.5
Supported FTE			AKL	3.7

Table 28. Supported staffing at the Manawatū campus for BE(Hons) and MEngSt Mechatronics specialisations together with the PhD Engineering, based on application of SSRs to 2023 SFAT-earned EFTS. The indicated supported FTE based on the current weighted SSR of 16.7 are listed.

Qualification		Specialisation	Campus/ Mode	2023 EFTS
Bachelor of Engineering with Honours	BE(Hons)	Mechatronics	MTU	45.3
Master of Engineering Studies	MEngSt	Mechatronics	MTU	1.0
Doctor of Philosophy	PhD	Engineering	MTU	26.7
Sub-total			MTU	73.0
Supported FTE			MTU	4.4

Financial analysis

Table 29 lists a summary of the estimates of revenues, costs and margins for the consolidation of Engineering to either the Auckland campus or the Manawatū campus. The revenues in each case are based on 2023 EFTS projections at each campus, confined to the delivery of the BE(Hons) and MEngSt Mechatronics specialisations, together with the PhD supervision at each campus. The costs are based on the estimated minimum staffing requirements of 10.5 FTE of academic staff and 3.0 FTE of technical staff at each campus, and a substantial reduction of UFA from 2,091 m^2 at Auckland, and 2,655 m^2 at Manawatū, to 1,200 m^2 in both modelled cases.[5]

This financial analysis suggests that consolidation to either the Auckland campus or the Manawatū campus would not result in a financially-viable situation (with reference to the current state shown in Table 24):

- For consolidation to the Auckland campus:
    - The margin at Auckland would be estimated to move from approximately -$169k in the current 2024 projection to approximately -$409k. In part, this would be due to the need to increase the academic staff FTE at Auckland to operate as a standalone operation.
    - The estimated projected shortfall in margin of approximately $1.0M would remain similar to the current situation.
- For consolidation to the Manawatū campus:
    - A margin of $609k would be projected to be achievable, a decrease from the current 2024 projection of $1.2M.
    - The estimated shortfall in margin would decrease from approximately $406kin the current 2024 projection to approximately $166k.

Consequently, the consolidation of engineering to either the Auckland campus or the Manawatū campus would require an ongoing subsidisation of approximately $1.0M at Auckland or approximately $166k at Manawatū from either the college or the University to support the continuation of this set of engineering qualifications. In other words, there would be continuation of the current situation where no positive margin is achievable for the delivery of engineering qualifications and research.

[5] Staffing costs are FTE-weighted to current costs, EFTS revenue is EFTS-weighted, other costs are weighted to FTE of academic and technical staff and to EFTS.

Table 29. A summary of the estimates of 2024 projected revenues, costs and margins for consolidation of the BE(Hons) and MEngSt Mechatronics specialisations together with PhD supervision should engineering be consolidated to either the Auckland campus or the Manawatū campus.

Income	Auckland	Manawatū
Teaching Income	1,427,284	1,873,296
Research Income	1,070,806	2,266,183
Trading Income	209,432	209,432
Total Income	2,707,522	4,348,911
Expenses		
Staff costs	1,434,491	1,447,258
UFA charges	857,697	857,870
All other costs	824,527	1,434,996
Total Expenses	3,116,714	3,740,124
Margin		
Total Margin	(409,193)	608,787
Expected Margin	596,046	774,450
Shortfall in Margin	(1,005,238)	(165,663)

Strategic consideration of Massey University's role in Engineering training in NZ

Table 30 lists estimates of the EFTS delivered in BE(Hons) training at a qualification level across the NZ universities. These are estimates but are based on the understanding of the annual intake into the qualifications. The entry for Massey University are the forecast 2023 EFTS (rounded to nearest 10 EFTS) for the BE(Hons) Mechatronics specialisation for comparison.

Table 30. Estimates of the current EFTS delivered by each University contributing to BE(Hons) training.

University	Estimated EFTS	Share
Auckland	3,200	44%
Canterbury	2,400	33%
AUT	650	9%
Waikato	500	7%
Victoria	400	6%
Massey - across two campuses	140	2%
Sub-total	7,290	100%

Based on these data, Massey University is not a significant provider of training of engineers in NZ, and reductions in EFTS through consolidation to a single campus (from approximately 137 to 65-72 EFTS) or from cessation of the programme (reduction of approximately 140 EFTS) would affect overall training of Engineers in NZ by only approximately less than2%.

Although Massey University is understood to have the largest cohorts in the field of Mechatronics across NZ, Table 30 makes it clear that this demand is very low in terms of overall interest in Engineering within the country. Mechatronics is not a unique niche, as other institutions also provide Mechatronics programmes within NZ.

Supply Chain Management qualifications and specialisations

Table 31 lists the all-of-Massey University EFTS for the set of Supply Chain Management (also previously referred to as Logistics and Supply Chain Management) qualifications and specialisations. It is noted that there are some EFTS reported for delivery locations where the qualification is not available. These represent students enrolled in the qualification taking courses at other locations.

Table 31. All-of-University EFTS for the set of Supply Chain Management qualifications by campus of course enrolment for 2018-2023. Where applicable, EFTS from previously discontinued qualifications/specialisations (NNE) are included.

Graduate Diploma in Logistics and Supply Chain Management, GradDipL&SCM

Delivery Location	Programme Title	NNE	2018	2019	2020	2021	2022	2023
Auckland	Graduate Diploma in Logistics and Supply Chain Managemen		29.25	9.875	15.5	10.75	5.75	0.125
Distance	Graduate Diploma in Logistics and Supply Chain Managemen		1.75	0.75	1.25	1.5	1.375	6.5
Grand Total			31	10.625	16.75	12.25	7.125	6.625

Postgraduate Diploma in Supply Chain Management, PGDipSCM, and Master of Supply Chain Management, MSCM

Delivery Location	Programme Title	NNE	2018	2019	2020	2021	2022	2023
Auckland	Master of Supply Chain Management		6.5	6.625	14.125	11.75	5.875	10.25
	Postgraduate Diploma in Supply Chain Manageme		25.125	25.875	22.75	5.25	3.625	8.25
Auckland Total			31.625	32.5	36.875	17	9.5	18.5
Manawatū	Master of Supply Chain Management			0.75	0.75	1		
	Postgraduate Diploma in Supply Chain Manageme				0.125			
Manawatū Total				0.75	0.875	1		
Distance	Master of Supply Chain Management		2.125	2.625	1.625	1.875	2.875	1.625
	Postgraduate Diploma in Supply Chain Manageme		1.125	1.5	1.5		0.375	
Distance Total			3.25	4.125	3.125	1.875	3.25	1.625
Grand Total			34.875	37.375	40.875	19.875	12.75	20.125

Application of the NLEP to the GradDipL&SCM

The GradDipL&SCM qualification does not meet the NLEP qualification requirements of 20 EFTS per academic year. This indicates that this qualification would be discontinued.

Application of the NLEP to the PGDipSCM and MSCM

The PGDipSCM and MSCM are nested qualifications. At the nested qualification level, the combination of the PGDipSCM and MSCM just meet the NLEP criterion of 20 EFTS per academic year. There are no specialisations to consider. At the course level there is 1 compulsory course that does not meet the NLEP course criterion. This indicates that the PGDipSCM and MSCM would continue provided that the courses meet the NLEP course requirements.

Application of Student to Staff Ratios, SSRs, and supportable staffing levels

Table 32 lists the 2023 SFAT-earned EFTS in the nested PGDipSCM and MSCM qualifications, the EFTS in the PhD in Supply Chain Management, and the supported academic staff FTE based on an weighted SSR of 23.2.

Table 32. Projected SFAT-earned EFTS and supported FTE for the Supply Management qualifications together with the supported academic FTE.

Qualification		Specialisation	Campus/ Mode	2023 EFTS
Postgraduate Diploma in Supply Chain Management	PGDipSCM	No Specialisation	AKL	7.5
Postgraduate Diploma in Supply Chain Management	PGDipSCM	No Specialisation	MTU	0
Postgraduate Diploma in Supply Chain Management	PGDipSCM	No Specialisation	DIS	0
Master of Supply Chain Management	MSCM	No Specialisation	AKL	10
Master of Supply Chain Management	MSCM	No Specialisation	MTU	0
Master of Supply Chain Management	MSCM	No Specialisation	DIS	1.6
Doctor of Philosophy	PhD	Logistics & Supply	AKL	1.3
Doctor of Philosophy	PhD	Logistics & Supply	MTU	2.5
Sub-total			AKL	18.8
Sub-total			MTU	2.5
Sub-total			DIS	1.6
Supported FTE			Total	1.0

This would suggest that, while the nested PGDipSCM and MSCM meet the NLEP threshold, this together with the PhD delivery would only yield sufficient EFTS to support a single academic staff position.

Quality Systems qualifications and specialisations

Table 33 lists the all-of-Massey University EFTS for the set of Quality Systems qualifications and specialisations. It is noted that there are no EFTS associated with PhD studies in Quality Systems. It is also noted that there are some EFTS reported for delivery locations where the qualification is not available. These represent students enrolled in the qualification taking courses at other locations.

Table 33. All-of-University EFTS for the set of Quality Systems qualifications by campus of course enrolment for 2018-2023. Where applicable, EFTS from previously discontinued qualifications/specialisations (NNE) are included.

Postgraduate Diploma in Quality Systems, PGDipQS, and Master of Quality Systems, MQS

Delivery Location	Programme Title	NNE	2018	2019	2020	2021	2022	2023
⊟Auckland	⊟Master of Quality Systems		0.5	0.25	0.75	3.5	3	1.5
	⊟Postgraduate Diploma in Quality Systems		0.375	1	0.625	4.625	1.875	1.125
Auckland Total			0.875	1.25	1.375	8.125	4.875	2.625
⊟Distance	⊟Master of Quality Systems		6.625	6.375	4	1.625	1.5	2.875
	⊟Postgraduate Diploma in Quality Systems		10	7	9	0.125	0.125	0.375
Distance Total			16.625	13.375	13	1.75	1.625	3.25
Grand Total			17.5	14.625	14.375	9.875	6.5	5.875

Application of the NLEP to the PGDipQS, and MQS

The PGDipQS and MQS are nested qualifications. At the nested qualification level, the qualifications do not meet the NLEP qualification criterion of 20 EFTS per academic year. There are no specialisations to consider. At the course level, 4 of the 8 courses in the schedule do not meet the NLEP course criterion.

Food Technology qualifications and specialisations

The onshore delivery of Food Technology at Massey University is dominated by the delivery of the Bachelor of Food Technology with Honours, BFoodTech(Hons), from the Auckland and Manawatū campuses (there is no Distance provision), followed by the Master of Food Technology, MFoodTech, the Master of Food Safety and Quality, MFoodSafQual, and doctoral-level research in the PhD. In addition, there are two qualifications limited to those employed in the dairy industry, the Diploma in

Dairy Technology, DipDairyTech, and the Master of Dairy Science and Technology, MDairyScTech. The delivery of the MFoodTech, MFoodSafQual, DipDairyTech, MDairyScTech and PhD in Food Technology is reliant on the delivery of the BFoodTech(Hons) at each location. Consequently, the primary level for analysis is for the BFoodTech(Hons) and the contributing specialisations. Proposals made for these then determine the proposals for postgraduate teaching in Food Technology.

SFAT also delivers the BFoodTech(Hons) offshore at the Singapore Institute of Technology and at Jiangnan University, China. This teaching generates trading revenue and does not form part of the EFTS analyses below.

Table 34 provides the all-of-University EFTS data for enrolments in the set of Food Technology qualifications at both qualification and specialisation level by campus of course delivery. It is noted that there are some EFTS reported for Distance study where the qualifications are not available by Distance, and some course enrolments at campuses at which a particular specialisation is not offered. These represent students enrolled in the qualification taking courses at other locations and have all been included for completeness.

Table 34. All-of-University EFTS for the Food Technology qualifications and specialisations by campus of course enrolment for 2018-2023. Where applicable, EFTS from previously discontinued qualifications/specialisations (NNE) are included.

Diploma in Dairy Technology, DipDairyTech

Delivery Location	Programme Title	NNE	2018	2019	2020	2021	2022	2023
Manawatū	Diploma in Dairy Technology						23.25	
Distance	Diploma in Dairy Technology				12	29.25		17
Grand Total					12	29.25	23.25	17

Bachelor of Food Technology with Honours, BFoodTech(Hons)

Delivery Location	Programme Title	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Food Technology with Honours		90.625	85.25	74.625	58.25	42.375	47.125
	Graduate Diploma in Technology	NNE	0.875					
Auckland Total			91.5	85.25	74.625	58.25	42.375	47.125
Manawatū	Bachelor of Food Technology with Honours		83.625	80.625	74.5	75.125	51.875	66.25
Manawatū Total			83.625	80.625	74.5	75.125	51.875	66.25
Distance	Bachelor of Food Technology with Honours		4.625	2.125	1.875	4	1.875	1.875
Distance Total			4.625	2.125	1.875	4	1.875	1.875
Grand Total			179.75	168	151	137.375	96.125	115.25

Food Product Technology

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Food Technology with Honours	Food Product Technology		86.625	83.25	74.625	58.25	41.375	46
Manawatū	Bachelor of Food Technology with Honours	Food Product Technology		61	60.75	55.5	57.875	40.75	53.375
Distance	Bachelor of Food Technology with Honours	Food Product Technology		4.5	2	1.625	4	1.875	1.875
Grand Total				152.125	146	131.75	120.125	84	101.25

Food Process Engineering

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Food Technology with Honours	Food Process Engineering		4	2			1	1.125
Manawatū	Bachelor of Food Technology with Honours	Food Process Engineering		22.625	19.875	19	17.25	11.125	12.875
Distance	Bachelor of Food Technology with Honours	Food Process Engineering		0.125	0.125	0.25			
Grand Total				26.75	22	19.25	17.25	12.125	14

Master of Dairy Science and Technology, MDairyScTech

Delivery Location	Programme Title	NNE	2018	2019	2020	2021	2022	2023
Manawatū	Master of Dairy Science and Technology		15	14	14	14	15	16
Grand Total			15	14	14	14	15	16

Master of Food Safety and Quality, MFoodSafQuality

Delivery Location	Programme Title	NNE	2018	2019	2020	2021	2022	2023
Auckland	Master of Food Safety and Quality			0.25		1.125	0.5	0.75
Manawatū	Master of Food Safety and Quality			0.125	6.875	7.25	4.125	10.5
Distance	Master of Food Safety and Quality		2.875	5.625	8.625	9.5	10.25	7.375
Grand Total			2.875	6	15.5	17.875	14.875	18.625

Master of Food Technology

Delivery Location	Programme Title	NNE	2018	2019	2020	2021	2022	2023
Auckland	Master of Food Technology		15	19.5	18	17.625	14.875	19.5
Manawatū	Master of Food Technology		17.5	23.75	25.25	19.75	14.125	11.625
Distance	Master of Food Technology			0.125			1.25	0.375
Grand Total			32.5	43.375	43.25	37.375	30.25	31.5

Application of the NLEP to the DipDairyTech

The NLEP calls for undergraduate diplomas to have 20 EFTS per academic year. The DipDairyTech was first introduced in 2020. Note that the data in Table 34 shows entries for both Manawatū and Distance offerings of this qualification. This is due to the qualification operating being a Manawatū offering for 2022 only.

Plans were in place prior to the preparation of this document for the discontinuation of the DipDairyTech and, subject to CUAP approval, for it to be replaced with a new Graduate Diploma in Dairy Science and Technology (GDipDairyScTech). The GradDipDairyScTech would be delivered from the Manawatū campus.

Application of the NLEP to the BFoodTech(Hons)

The NLEP calls for four-year bachelor's degrees with honours to have at least 65 EFTS in an academic year, and undergraduate specialisations to have 30 EFTS per academic year at each delivery location.

With reference to the threshold set in the NLEP:

- At the qualification-level, the BFoodTech(Hons) exceeds the threshold overall and separately at Manawatū but not at Auckland; and
- At the specialisation and course levels:
    - The Manawatū-only Food Process Engineering specialisation is well below the threshold, and has 4 of 5 courses that do not meet the course threshold; and
    - The Food Product Technology specialisation at both Auckland and Manawatū exceeds the threshold but has 2 of 5 courses at Auckland and 8 of 11 offerings of 9 courses at Manawatū that do not meet the course threshold.

Application of the NLEP would indicate that:

- The Manawatū-only Food Process Engineering specialisation would be discontinued; and
- The Food Product Technology specialisation at each campus could continue, provided the enrolments could increase in those courses not meeting the threshold.

This would then indicate that the BFoodTech(Hons) would become a single-specialisation qualification with Food Product Technology being that specialisation.

Application of the NLEP to the MDairyScTech

The MDairyScTech just meets the NLEP qualification criterion. There are no specialisations to consider. At the course level there is 1 course that does not meet the NLEP course criterion. The qualification is taught with substantial input from the dairy industry and led from the Manawatū campus. Given this high level of industry input, the qualification could be maintained.

Application of the NLEP to the MFoodSafQual

There are no specialisations to consider in this qualification. The MFoodSafQual meets the NLEP qualification criterion overall but not separately at each location. At a course level there is one compulsory course that does not meet the NLEP course criterion. The qualification is delivered at Manawatū and by Distance. This is consistent with the Digital Plus Policy. Given these considerations, the MFoodSafQual could be maintained at Manawatū and by Distance.

Application of the NLEP to the MFoodTech

There are no specialisations to consider in this qualification. The qualification is currently delivered at both the Auckland and Manawatū campuses. If the MFoodTech was discontinued at Auckland, then the remaining EFTS at Manawatū would not meet the NLEP qualification criterion. Approximately one-third of the current interest in the MFoodTech at Auckland would have to transfer to Manawatū to enable meeting the NLEP qualification threshold. Over 75% of the current enrolments in the MFoodTech at Auckland are international students. While it is unknown whether future potential international students would enroll at Manawatū if the Auckland offering was not available, it is noted that approximately 70% of the MFoodTech students at the Manawatū campus are international students. This suggests that the Manawatū campus *per se* is not a barrier for study by international students. Therefore, in the later analysis of SSRs and supportable staffing levels, a transfer of 50% of current MFoodTech students based at Auckland to Manawatū has been assumed.

An additional open question that should be addressed is whether a distance offering would provide opportunities for in-industry training of NZ domestic students and increase enrolments.

Application of the Digital Plus Policy to the Food Technology qualifications

The first consideration is whether or not there is financial justification for the delivery of food technology teaching and research on both the Auckland and Manawatū campus locations. Table 24 shows a substantial shortfall in financial margin for both campuses and it is evident that maintaining two locations of delivery would require a high level of cross-subsidisation.

Consequently, application of the Digital Plus Policy to Food Technology requires consideration of the campus to which Food Technology would be consolidated. Given the application of the NLEP indicates the continuation of only the Food Product Technology specialisation, the consideration requires recognition that the BFoodTech(Hons) would be confined to the delivery of the BFoodTech(Hons) with Food Product Technology specialisation.

Further, it is assumed that a single campus would deliver all undergraduate and postgraduate Food Technology qualifications and support the offshore delivery at Jiangnan University and the Singapore Institute of Technology.

As for the BE(Hons), the option of developing and delivering an online distance delivery of the BFoodTech(Hons) qualification was not considered viable given the curriculum requirement for extensive and integrated laboratory and workshop training.

Consideration of current enrolments by campus

While the EFTS in the Food Product Technology specialisation were similar at each of the two campuses in 2021, there are more EFTS at Manawatū in 2023 in part due to the onshore enrolments of the fourth-year students from Jiangnan University.

Consideration of buildings and usable floor area (UFA)

At Auckland, Food Technology is delivered from the IC Building. These are new facilities, with floor space appropriate to the current scale of activity, but insufficient to accommodate all the fourth-year students from Jiangnan University.

The facilities at Manawatū (Riddet Complex) are older than those at Auckland but far more extensive (by a factor of 3) in terms of floor area. There is a case that the UFA at Manawatū is too large for current demand, however it is capable of accommodating any increase in student numbers, including accommodating all the fourth-year students from Jiangnan University.

Consideration of equipment and other facilities

There is a marked disparity of equipment availability and other facilities between the two campuses. There is a lower level and range of equipment availability in the teaching laboratories in the IC Building at Auckland compared to Manawatū. The laboratory and workshops at the Manawatū campus are extensive and better equipped, but arguably too extensive in terms of both space and the level of equipment for the number of current students. Alongside the 'within-School' facilities are those in the Food Pilot, a unit which contributes to the training of fourth year BFoodTech(Hons) students.

Consideration of location of other related qualifications

The industry partnership delivery of the DipDairyTech and the MDairyTech is led from the Manawatū campus. The MFoodSafQual offered at Manawatū and by Distance is also led from the Manawatū campus. The MFoodTech is delivered from both the Auckland and the Manawatū campus.

It is also noted that the majority of PhD Food Technology is undertaken at the Manawatū campus. It should also be noted that a substantial proportion of that research is undertaken in the Riddet Institute, some involving supervision from SFAT academic staff.

Proximity to similar and related infrastructure and technical support

Currently, and with the recent relocation to the IC Building, the delivery of Food Technology at Auckland is in a position to develop synergies with, in particular, the School of Natural Sciences.

At Manawatū, Food Technology operates with interactions with the School of Agriculture and Environment, the School of Natural Sciences, and the Food Pilot, together with interactions with the Riddet Institute and the Te Ohu Rangahau Kai Joint Venture with AgResearch.

Application of Student to Staff Ratios, SSRs, and supportable staffing levels

Should consolidation to the Manawatū campus be the preferred option, consideration needs to be given as to the extent to which the level of current enrolments at Auckland in all Food Technology qualifications would transfer to additional future enrolments at Manawatū.

In the subsequent analyses it was assumed that in such a situation there would be:

- a 50% transfer of BFoodTech(Hons) EFTS from the Auckland campus to the Manawatū campus; the assumption being that there is a proportion of students who would have previously chosen to study the BFoodTech(Hons) that would transfer to the single specialisation BFoodTech(Hons) at Manawatū;
- a 50% transfer of EFTS from the MFoodTech at Auckland to Manawatū; and
- a 50% transfer of EFTS from the PhD in Food Technology at Auckland to Manawatū.

Table 35 lists the projected SFAT-earned EFTS for these Manawatū-consolidated qualifications based on current 2023 EFTS and the assumed transfer of EFTS by qualification from Auckland. In

combination with the current EFTS- and SAC-weighted SSR of 17.0 for Food Technology this provides an estimate of the supported academic FTE. Two significant factors are noted in estimating SFAT-earned EFTS in this analysis:

- In recent years on average SFAT academic staff have delivered approximately 75% of the courses in the BFoodTech(Hons); and
- A substantial proportion of the PhD EFTS at Manawatū are delivered by Riddet Institute staff.

Table 35. Projected SFAT-earned EFTS for consolidation of all Food Technology to the Manawatū campus together with the supported academic FTE.

Qualification		Specialisation	Campus/ Mode	2023 EFTS
Bachelor of Food Technology with Honours	BFoodTech(Hons)	Food Process Engineering	MTU	10.5
Bachelor of Food Technology with Honours	BFoodTech(Hons)	Food Product Technology	MTU	60.2
Master of Food Safety and Quality	MFoodSafQual	No specialisation	MTU	11.3
Master of Food Safety and Quality	MFoodSafQual	No specialisation	DIS	7.4
Master of Food Technology	MFoodTech	No specialisation	MTU	21.4
Master of Food Technology	MFoodTech	No specialisation	DIS	0.4
Diploma in Dairy Technology	DipDairyTech	No specialisation	MTU	0.0
Diploma in Dairy Technology	DipDairyTech	No specialisation	DIS	17.0
Master of Dairy Science and Technology	MDairyScTech	No specialisation	MTU	16.0
Doctor of Philosophy	PhD	Food Technology	MTU	47.4
Sub-total			MTU	191.6
Supported Academic Staff FTE				11.3

This analysis indicates that 11.3 FTE of academic staff positions would be supported at Manawatū. Based on a workload analysis this level of staffing would be insufficient for delivery of the qualifications, to provide adequate research training for postgraduate students, and to provide resilience, breadth of staff capabilities, together with the ability to thrive in research. It is estimated that a further 3.0 FTE at a minimum would be required to approach those aspirations (i.e., 3-4 course delivered per FTE).

Additional consideration is required relating to the FTE of technical staff that could be supported in this situation. It is estimated that at least 3.0 FTE of technical staff would be required.

It is noted that a further 4.4 FTE of academic staff and 3.2 FTE of technical are supported by external funding in the FEAST research group.

Offshore teaching

The offshore teaching of the BFoodTech(Hons) at the Singapore Institute of Technology and at Jiangnan University does not contribute EFTS to the above tables. A total of 4.8 FTE is directly supported by these activities, and these contribute to the total academic 30.0 FTE reported in Table 5 of the proposal.

Strategic consideration of Massey University's role in Food Technology training in NZ

Massey University is the only university in NZ to offer a four-year BFoodTech(Hons). Food Science is delivered at other universities as specialisations in 3-year bachelor's qualifications:

- BSc (Food Science) and BApplSci (Consumer Food Science) at the University of Otago
- BSc (Food Safety) and BSc (Food Science) at AUT
- BSc (Food Science) and BSc (Brewing & Fermentation) at Lincoln University
- BSc (Food Science & Nutrition) at the University of Auckland

The BFoodTech(Hons) currently holds an accreditation by Engineering New Zealand Te Ao Rangahau. That accreditation is related to the provision of the Food Process Engineering specialisation in the qualification. While the NLEP would suggest that this specialisation should be discontinued (leaving the BFoodtech(Hons) as a single-specialisation qualification), the combination of strong industry support with the recognition that relatively few additional courses are required to provision the specialisation, the proposal is that this specialisation continue.

Food Technology at Manawatū has a history of interactions with:

- The Food Pilot
- FoodHQ
- Te Ohu Rangahau Kai, the Joint Venture between AgResearch and Massey University
- The Riddet Institute
- Food Safety Science and Research Centre
- The dairy industry (Fonterra including FRDC, Synlait amongst others)
- The horticultural industry (e.g., Zespri)
- The processed food industry (e.g., Heinz-Watties/Kraft, Leader Group and Kawarea Foods, amongst others)
- The NZ Food Innovation Network, NZFIN
- The School of Agriculture and Environment
- The School of Veterinary Science
- Food Safety and Quality training (MPI)

This level of engagement and interaction would support the strategic case for subsidizing the continuation of Food Technology at Manawatū. Food Technology in Auckland also has strong relationships with the regional food industry. Nonetheless, it is arguable that the Manawatū region and the infrastructure and supporting capabilities provides a world-class foundation for maintaining and further developing Massey's leadership in food technology teaching, research and development.

Appendix 5: Detailed analysis of the academic delivery by SNS

Financial situation

The overall shortfall in margin for SNS is projected to be approximately $8.7M for 2023– see Table 36. This shortfall equates to approximately 31% of the received income. Further, irrespective of the required overall margin (approximately 24% of all revenue), SNS academic delivery had higher costs than the revenue received (approximately 107% of revenue received, as was similarly the case in 2022). Table 37 provides the projected estimates by AMG and campus for 2024 based on a continuation of present activities. As in 2022 and forecast for 2023, SNS is projected in 2024 to have higher costs than revenue; this indicates that this school has sustained an inability to contribute to any of the operating costs of the wider University. Each of the combinations of AMG and campus of operations are estimated to contribute to the shortfalls in 2023 and 2024.

Overview of SNS's academic delivery

SNS has six broad areas to its academic delivery at undergraduate and postgraduate levels:

- Molecular Cell Biology
- Ecology and Conservation
- Zoology
- Chemistry
- Microbiology
- Plant Science

In recent times there have been several changes to the specialisation names and schedules in both the BSc and MSc. Where this has taken place, the EFTS associated with the previous versions of the subject areas are included to provide an estimate of the historical interest in those subject areas.

It should be noted that academic staff in SNS contribute substantially to 'service courses' utilised by other qualifications, in particular through the 100-level courses:

- 123104 Chemistry for Biological Systems
- 124103 Biophysical Principles
- 162101 Cell Biology
- 199103 Animals and the Environment

In addition, there are some contributions from SNS to the delivery of the core 100-level Science and Sustainability courses.

The enrolments in the core service courses far outweigh the enrolments by students wishing to specialize in the subject area. Consequently, the ability to support academic staffing in a particular area to some extent is determined by the EFTS in the subject area service courses. Other contributing factors are the enrolments in the corresponding PhD subject areas.

It is assumed that postgraduate training at PGDipScTech, MSc and PhD level in a specialisation would only be continued in those areas with continuing related undergraduate BSc specialisations. The rationale for this is that the majority of EFTS in a subject area are at undergraduate level (predominantly in service courses), and it is this area that provides the majority of the supported academic staff FTE to provide for the breadth and depth of postgraduate and research qualifications.

The qualifications and specialisations for which the SNS has responsibility are listed in

Table 38.

The undergraduate specialisations are all within the Bachelor of Science, BSc, while the postgraduate specialisations are distributed, and nested in some cases, across the PGDipScTech and the MSc. In several areas there is no direct translation of a BSc specialisation name to the PGDipScTech and MSc. This has been in part due to previous NLEP considerations where it was found that enrolments at PGDipScTech and MSc levels has been historically low.

Table 36. 2023 financial forecast for the SNS budget centre by AMG and campus of delivery.

	Estimation of forecast 2023 revenues and costs by AMG & Campus of Operations														
Academic Management Group	Chemistry		Physics		Plant Science & Breeding		Ecology, Conservation & Marine Biology		Molecular and Cellular Biology & Microbiology		Zoology		SNS AMG		Auckland Campus	Manawatū Campus
Campus of operation	Auckland	Manawatū	Auckland	Manawatū	Auckland	Manawatū	Auckland	Manawatū	Auckland	Manawatū	Auckland	Manawatū	Sub-total		Sub-total	Sub-total
Income																
Teaching Income																
Total Teaching Income	643,953	2,566,843	406,748	290,710	83,052	1,358,176	991,211	1,437,808	773,501	2,976,229	661,526	2,425,682	14,615,438		3,559,990	11,055,447
Research Income																
PBRF Income	117,114	636,721	11,506	226,846		359,570	345,463	375,524	415,775	1,012,467	118,379	182,797	3,802,162		1,008,237	2,793,924
Income from Research Grants	41,574	1,491,000	22,523	254,054		861,328	1,162,973	160,192	418,914	1,198,112	92,901	130,305	5,833,875		1,738,885	4,094,990
Total Research Income	158,688	2,127,721	34,028	480,900		1,220,898	1,508,437	535,715	834,689	2,210,579	211,280	313,102	9,636,037		2,747,122	6,888,914
Trading Income																
Total Trading Income	20,220	73,465	6,740	13,480		36,058	61,333	35,047	26,959	92,336	33,699	38,417	437,755		148,951	288,804
Total Income	822,860	4,768,028	447,516	785,090	83,052	2,615,132	2,560,980	2,008,571	1,635,150	5,279,144	906,506	2,777,201	24,689,230		6,456,064	18,233,166
Expenses																
Academic Staff Related Expenses	428,853	1,497,204	131,316	286,225	-	788,626	1,320,205	799,024	608,535	1,888,793	687,669	964,109	9,400,558		3,176,578	6,223,980
Technical Staff Related Expenses	60,014	291,739	54,665	37,065	-	236,862	310,506	93,591	103,332	544,895	54,352	93,591	1,880,612		582,869	1,297,742
Professional Staff Related Expenses*	29,676	119,409	19,151	16,812	3,609	57,532	52,087	60,094	36,331	141,213	31,733	108,076	675,723		172,587	503,136
Asset Related Expenses	10,175	38,412	5,088	6,360	-	22,513	37,064	16,535	15,263	55,201	15,263	17,807	239,680		82,853	156,828
Depreciation	80,288	532,228	5,401	194,287	-	18,546	17,642	19,625	47,885	252,671	5,401	19,625	1,193,596		156,615	1,036,981
Consumables	62,041	249,636	40,036	35,147	7,546	120,276	108,893	125,631	75,953	295,218	66,340	225,944	1,412,660		360,809	1,051,851
Travel	12,304	44,705	4,101	8,203	-	21,942	37,322	21,327	16,405	56,189	20,507	23,378	266,384		90,640	175,744
Contracted Services	6,855	245,852	3,714	41,891	-	142,025	191,764	26,414	69,075	197,558	15,319	21,486	961,953		286,726	675,227
Scholarships - Stipends & Fees	6,965	249,807	3,774	42,565	-	144,310	194,848	26,839	70,186	200,736	15,565	21,832	977,427		291,339	686,088
Other Direct Expenses	9,062	36,464	5,848	5,134	1,102	17,569	15,906	18,351	11,094	43,122	9,690	33,004	206,347		52,703	153,644
UFA Charges	298,264	1,472,001	18,467	81,521	-	560,080	649,134	375,958	624,896	1,614,390	322,319	304,642	6,321,673		1,913,079	4,408,593
Other Overhead Recoveries	82,112	330,399	52,989	46,518	9,987	159,188	144,123	166,275	100,526	390,727	87,803	299,041	1,869,687		477,539	1,392,148
PVC Office cost attribution	20,914	84,151	13,496	11,848	2,544	40,544	36,707	42,350	25,603	99,516	22,363	76,164	476,200		121,627	354,573
SNS central cost recoveries	26,079	104,936	16,829	14,774	3,172	50,558	45,774	52,810	31,927	124,096	27,886	94,976	593,818		151,668	442,150
Total Expenses	1,133,603	5,296,944	374,873	828,349	27,960	2,380,570	3,161,976	1,844,823	1,837,012	5,904,325	1,382,209	2,303,675	26,476,318		7,917,633	18,558,685
Total Margin	(310,742)	(528,916)	72,643	(43,259)	55,092	234,562	(600,995)	163,748	(201,862)	(625,181)	(475,704)	473,525	(1,787,088)		(1,461,569)	(325,519)
Margin as % of Income	-38%	-11%	16%	-6%	66%	9%	-23%	8%	-12%	-12%	-52%	17%	-7%			
Expected Margin	258,188	1,028,941	162,901	116,689	33,221	544,352	398,324	576,175	310,209	1,193,262	265,621	971,425	5,859,308		1,428,465	4,430,843
Shortfall in Margin	**(568,930)**	**(1,557,857)**	**(90,258)**	**(159,947)**	**21,871**	**(309,790)**	**(999,320)**	**(412,427)**	**(512,071)**	**(1,818,442)**	**(741,325)**	**(497,900)**	**(7,646,396)**		**(2,890,034)**	**(4,756,362)**
Shortfall as % of Academic & Technical Staff Related Expenses																
Shortfall as % of UFA Charges																
Shortfall as % of UFA Charges and Staff Related Expenses																
Expected Margin % by Activity																
Teaching	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%			
Research	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Trading	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%			

* To be transferred for the most part to the PVC's Office in 2024

Table 37. 2024 financial projection for the SNS budget centre by AMG and campus of delivery

	Estimation of projected 2024 revenues and costs by AMG & Campus of Operations														
Academic Management Group	Chemistry		Physics		Plant Science & Breeding		Ecology, Conservation & Marine Biology		Molecular and Cellular Biology & Microbiology		Zoology		SNS AMG		Auckland Campus	Manawatū Campus
Campus of operation	Auckland	Manawatū	Auckland	Manawatū	Auckland	Manawatū	Auckland	Manawatū	Auckland	Manawatū	Auckland	Manawatū	Sub-total		Sub-total	Sub-total
Income																
Teaching Income																
Total Teaching Income	690,004	2,750,407	435,836	311,500	88,991	1,455,304	1,062,096	1,540,631	828,817	3,189,069	708,834	2,599,150	15,660,638		3,814,577	11,846,060
Research Income																
PBRF Income	117,114	636,721	11,506	226,846		359,570	345,463	375,524	415,775	1,012,467	118,379	182,797	3,802,162		1,008,237	2,793,924
Income from Research Grants	42,946	1,540,203	23,266	262,438		889,751	1,201,352	165,478	432,739	1,237,650	95,967	134,605	6,026,393		1,796,268	4,230,125
Total Research Income	160,060	2,176,924	34,772	489,283		1,249,322	1,546,815	541,002	848,513	2,250,117	214,346	317,402	9,828,555		2,804,506	7,024,049
Trading Income																
Total Trading Income	24,465	72,580	8,155	16,310		37,921	43,222	34,251	32,620	95,415	40,776	46,484	452,201		149,238	302,962
Total Income	874,529	4,999,911	478,763	817,094	88,991	2,742,546	2,652,133	2,115,884	1,709,951	5,534,601	963,956	2,963,036	25,941,393		6,768,322	19,173,072
Expenses																
Academic Staff Related Expenses	462,522	1,318,467	141,626	308,696	-	739,256	829,279	696,034	656,311	1,739,700	741,659	1,039,802	8,673,354		2,831,398	5,841,956
Technical Staff Related Expenses	63,165	307,056	57,535	39,011	-	249,298	326,809	98,505	57,098	501,816	57,205	98,505	1,856,003		561,812	1,294,191
Professional Staff Related Expenses*	30,081	119,179	19,028	16,728	3,758	59,115	47,137	56,861	35,643	139,146	31,210	105,693	663,579		166,857	496,722
Asset Related Expenses	11,842	38,782	5,921	7,401	-	24,128	31,885	16,283	14,951	55,361	17,763	20,723	245,040		82,361	162,679
Depreciation	80,288	532,228	5,401	194,287	-	18,546	17,642	19,625	47,885	252,671	5,401	19,625	1,193,596		156,615	1,036,981
Consumables	66,125	261,979	41,828	36,771	8,260	129,945	103,617	124,992	78,351	305,870	68,605	232,334	1,458,675		366,784	1,091,891
Travel	14,888	44,167	4,963	9,925	-	23,076	26,302	20,843	19,850	58,062	24,813	28,287	275,175		90,815	184,360
Contracted Services	7,081	253,965	3,836	43,274	-	146,712	198,092	27,286	71,355	204,077	15,824	22,195	993,697		296,188	697,509
Scholarships - Stipends & Fees	7,195	258,051	3,898	43,970	-	149,072	201,278	27,725	72,502	207,360	16,079	22,552	1,009,682		300,953	708,729
Other Direct Expenses	9,659	38,267	6,110	5,371	1,206	18,981	15,135	18,258	11,445	44,679	10,021	33,937	213,069		53,576	159,493
UFA Charges	330,178	1,629,506	20,443	90,244	-	620,008	718,591	416,186	691,760	1,787,130	356,807	337,239	6,998,092		2,117,779	4,880,313
Other Overhead Recoveries	87,517	346,734	55,360	48,667	10,932	171,985	137,139	165,430	103,699	404,826	90,800	307,499	1,930,588		485,447	1,445,141
PVC Office cost attribution	22,657	89,765	14,332	12,599	2,830	44,525	35,503	42,828	26,846	104,804	23,507	79,607	499,803		125,676	374,128
SNS central cost recoveries	33,801	133,914	21,381	18,796	4,222	66,423	52,965	63,891	40,050	156,350	35,068	118,761	745,623		187,487	558,136
Total Expenses	1,226,999	5,372,060	401,662	875,739	31,208	2,461,070	2,741,374	1,794,745	1,927,745	5,961,854	1,494,761	2,466,759	26,755,975		7,823,749	18,932,227
Total Margin	(352,470)	(372,150)	77,101	(58,645)	57,783	281,477	(89,241)	321,139	(217,794)	(427,253)	(530,805)	496,278	(814,582)		(1,055,427)	240,845
Margin as % of Income	-40%	-7%	16%	-7%	65%	10%	-3%	15%	-13%	-8%	-55%	17%	-3%		-16%	1%
Expected Margin	276,736	1,102,340	174,579	125,089	35,596	583,259	426,135	617,280	332,505	1,278,490	284,757	1,041,055	6,277,821		1,530,308	4,747,513
Shortfall in Margin	**(629,206)**	**(1,474,490)**	**(97,478)**	**(183,735)**	**22,187**	**(301,782)**	**(515,376)**	**(296,141)**	**(550,300)**	**(1,705,743)**	**(815,562)**	**(544,777)**	**(7,092,403)**		**(2,585,735)**	**(4,506,668)**
Shortfall as % of Academic & Technical Staff Related Expenses																
Shortfall as % of UFA Charges																
Shortfall as % of UFA Charges and Staff Related Expenses																
Expected Margin % by Activity																
Teaching	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%			
Research	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Trading	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%			

Table 38. The qualifications and specialisations for which the SNS has primary responsibility.

Qualification		Specialisation	Campus/Mode
Bachelor of Science	BSc	Chemistry	MTU
Bachelor of Science	BSc	Ecology and Conservation	AKL
Bachelor of Science	BSc	Ecology and Conservation	MTU
Bachelor of Science	BSc	Microbiology	MTU
Bachelor of Science	BSc	Molecular Cell Biology	AKL
Bachelor of Science	BSc	Molecular Cell Biology	MTU
Bachelor of Science	BSc	Plant Science	MTU
Bachelor of Science	BSc	Zoology	AKL
Bachelor of Science	BSc	Zoology	MTU
Master of Science	MSc	Biological Sciences	AKL
Master of Science	MSc	Biological Sciences	MTU
Master of Science	MSc	Chemistry	MTU
Master of Science	MSc	Conservation Biology	AKL
Master of Science	MSc	Conservation Biology	DIS
Master of Science	MSc	Ecology	MTU
Master of Science	MSc	Ecology	DIS
Master of Science	MSc	Plant Breeding	MTU
Master of Science	MSc	Zoology	AKL
Master of Science	MSc	Zoology	MTU
Postgraduate Diploma in Science and Technology	PGDipScTech	Biological Sciences	AKL
Postgraduate Diploma in Science and Technology	PGDipScTech	Biological Sciences	MTU
Postgraduate Diploma in Science and Technology	PGDipScTech	Biological Sciences	DIS
Postgraduate Diploma in Science and Technology	PGDipScTech	Conservation Biology	AKL
Postgraduate Diploma in Science and Technology	PGDipScTech	Conservation Biology	DIS
Postgraduate Diploma in Science and Technology	PGDipScTech	Plant Breeding	MTU
Postgraduate Diploma in Science and Technology	PGDipScTech	Zoology	AKL
Postgraduate Diploma in Science and Technology	PGDipScTech	Zoology	MTU

Table 39 provides the conceptual mapping of undergraduate BSc specialisations to the PGDipScTech, the MSc, and then beyond to PhD research in those areas.

The three BSc 'biology' specialisations: Molecular Cell Biology; Ecology and Conservation; and Zoology form a closely inter-related grouping. In recent years these specialisations have followed CoS guidelines and practiced the 50% sharing of courses at 200- and 300-levels, and these specialisations have been offered on both the Auckland and the Manawatū campuses.

Table 39. Mapping of undergraduate BSc specialisations to the PGDipScTech, the MSc, and then beyond to PhD research in those areas.

BSc	PGDipScTech	MSc	PhD
Molecular Cell Biology	Biological Sciences	Biological Sciences	Biochemistry or Genetics or Microbiology & Genetics
Ecology and Conservation	Ecology or Conservation Biology	Ecology or Conservation Biology	Ecology or Conservation Biology
Zoology	Zoology	Zoology	Zoology
Chemistry	not available	Chemistry	Chemistry
Microbiology	Biological Sciences	Biological Sciences	Microbiology & Genetics
Plant Science	Biological Sciences or Plant Breeding	Biological Sciences or Plant Breeding	Plant Biology or Plant Science

Given these relationships, in the following sections the three BSc 'biology' specialisations are considered together with the related postgraduate qualifications, followed by each of the other BSc specialisations (and accompanying postgraduate qualifications).

The BSc as a whole and the nested PGDipScTech with MSc all meet the NLEP qualification threshold and so only individual specialisations are considered in the following sections.

It is noted that EFTS in the conjoint BBus/BSc and BA/BSc (both now closed to new enrolments) are included with the BSc data.

It is recognised that in the 120 credit BSc major structure at Massey University there is a need to provide sufficient additional courses of interest to students and sufficient to complete the requirements of the 360 credit BSc (referred to as a 'sufficiency of offer'). Consequently, a single BSc major cannot be offered without the support of other majors. In addition, because of course sharing between them, the delivery of BSc Molecular Cell Biology, Ecology and Conservation, and Zoology specialisations is interdependent and therefore they need to be considered as a group. The BSc Microbiology and Plant Science majors are also interdependent with the other biological science majors but are only available on the Manawatū campus and are therefore considered separately, as is BSc Chemistry.

The analyses in the following sections will identify some of the specialisations in the BSc, PGDipScTech and MSc delivered from SNS that do not meet the NLEP requirements. This would suggest the discontinuation of these specialisations. Where a specialisation would not continue at BSc level it would then follow that the corresponding specialisation(s) at postgraduate level would also be discontinued.

BSc Molecular Cell Biology, Ecology and Conservation, and Zoology, and related postgraduate specialisations

Table 40 lists the all-of-Massey University EFTS for the set of three BSc 'biology' specialisations and the follow-on PGDipScTech and MSc specialisations. It is noted that there are some EFTS reported for delivery locations where the qualification is not available. These represent students enrolled in the qualification taking courses at other locations.

Table 40. All-of-University EFTS for the set of three BSc 'biology' specialisations and the follow-on PGDipScTech and MSc specialisations by campus of course enrolment for 2018-2023. Where applicable, EFTS from previously discontinued qualifications/specialisations (NNE) are included.

BSc Molecular Cell Biology

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Business / Bachelor of Science	Genetics	NNE	0.875	0.625				
	Bachelor of Science	Biochemistry	NNE	0.375	0.25				
		Biological Sciences	NNE	19.375	13	3.125	3	0.625	
		Genetics	NNE	30.375	25.125	12.625	3.5	0.5	
		Integrative Biology	NNE	2.375	0.75	3.25	2.875	1.125	
		Molecular and Cellular Biology	NNE	0.75	1.75	9.125	8.25	6.625	1.125
		Molecular Cell Biology			1.5	5.375	7	5.875	10
Auckland Total				54.125	43	33.5	24.625	14.75	11.125
Manawatū	Bachelor of Arts / Bachelor of Science	Biological Sciences	NNE		1	0.75	0.75	0.5	
		Genetics	NNE		1	0.875	0.625		0.625
		Molecular Cell Biology	qual is NNE					1	
	Bachelor of Business / Bachelor of Science	Molecular Cell Biology	qual is NNE			1	1.125	1.125	1
	Bachelor of Science	Biochemistry	NNE	29.525	25	12.5	6.875	1.375	
		Biological Sciences	NNE	36.883	25.1416	9.25	3.125	0.625	
		Genetics	NNE	34.625	31.375	20.125	13.625	2.125	
		Integrative Biology	NNE			1		0.125	
		Molecular and Cellular Biology	NNE		0.5			0.375	0.25
		Molecular Cell Biology		1.75	0.75	11.875	21.25	24.25	22.75
		Molecular Genetics and Biochemistr	NNE			0.875			
Manawatū Total				102.783	84.7666	58.25	47.375	31.5	24.625
Distance	Bachelor of Arts / Bachelor of Science	Biological Sciences	NNE			0.375	0.375	0.5	
		Genetics	NNE			0.125	0.375		0.125
		Molecular Cell Biology	qual is NNE					0.125	
	Bachelor of Business / Bachelor of Science	Genetics	NNE	0.125	0.25				
	Bachelor of Science	Biochemistry	NNE	1.75	1.25	1	0.375		
		Biological Sciences	NNE	7.25	6.75	5.75	2.5	0.75	0.75
		Genetics	NNE	5.25	4.625	3.125	1.875	1	0.25
		Integrative Biology	NNE	0.5	0.375	0.25	0.375	0.875	
		Molecular and Cellular Biology	NNE	0.125	0.5	1.25	1.75	1.5	
		Molecular Cell Biology		0.25	0.875	3.625	3	4.375	4
		Molecular Genetics and Biochemistr	NNE			0.125			
Distance Total				15.25	14.625	15.625	10.625	9.125	5.125
Wellington	Bachelor of Science	Molecular and Cellular Biology	NNE		0.625				
Wellington Total					0.625				
Grand Total				172.158	143.0166	107.375	82.625	55.375	40.875

BSc Ecology and Conservation

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Arts / Bachelor of Science	Ecology and Sustainability	NNE		0.125	0.625	0.625	0.375	0.25
	Bachelor of Business / Bachelor of Science	Ecology	NNE	0.5	0.5				
	Bachelor of Science	Ecology	NNE	24.375	19.125	9.625	4.125	1.375	0.75
		Ecology and Conservation				0.625	4.25	6.875	11.25
		Ecology and Sustainability	NNE	1.5	0.5	9.875	8.375	5.125	0.375
		Marine Biology	NNE	0.25	3.5	4.625	5.75	3.5	2.25
		Marine Ecology	NNE	23.25	13.375	2.75	1	0.875	0.25
	Graduate Certificate in Science and Technology	No Specialisation - Ecology pathway	NNE	0.125	0.125	0.125			
Auckland Total				50	37.25	28.25	24.125	18.125	15.125
Manawatū	Bachelor of Science	Ecology	NNE	40.875	48.125	29	19.25	1.75	
		Ecology and Conservation		0.5	2	9.25	20.375	22.625	21.625
		Ecology and Sustainability	NNE		1.5			0.875	
		Marine Ecology	NNE	1					
Manawatū Total				42.375	51.625	38.25	39.625	25.25	21.625
Distance	Bachelor of Arts / Bachelor of Science	Ecology and Sustainability	NNE		0.5	0.5	0.375	0.5	0.375
	Bachelor of Business / Bachelor of Science	Ecology	NNE	0.625					
	Bachelor of Science	Ecology	NNE	6.875	8.5	5	2.5	0.5	0.375
		Ecology and Conservation			0.125	2.125	4.25	5.625	6.5
		Ecology and Sustainability	NNE	0.125	1.125	1.25	3.25	3.5	0.25
		Marine Biology	NNE	0.625	1.25	0.875	1	1.125	0.125
		Marine Ecology	NNE	1.5	3.125	0.375	0.25	0.625	
	Graduate Certificate in Science and Technology	No Specialisation - Ecology pathway	NNE		0.125				
Distance Total				9.75	14.75	10.125	11.625	11.875	7.625
Wellington	Bachelor of Science	Ecology and Sustainability		0.875					
Wellington Total				0.875					
Grand Total				103	103.625	76.625	75.375	55.25	44.375

BSc Zoology

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Arts / Bachelor of Science	Zoology	qual is NNE	1	1	0.75	0.5	0.375	
	Bachelor of Science	Zoology		75.375	69.625	65.625	61.75	47.75	46.875
Auckland Total				76.375	70.625	66.375	62.25	48.125	46.875
Manawatū	Bachelor of Business / Bachelor of Science	Zoology	qual is NNE					1	1
	Bachelor of Science	Zoology		130.6249	135.75	118.625	113.875	102.625	90.125
Manawatū Total				130.6249	135.75	118.625	113.875	103.625	91.125
Distance	Bachelor of Arts / Bachelor of Science	Zoology	qual is NNE			0.125	0.375	0.25	
	Bachelor of Science	Zoology		22.375	22.375	21.75	19.5	23.125	26.75
Distance Total				22.375	22.375	21.875	19.875	23.375	26.75
Wellington	Bachelor of Science	Zoology		0.25					
Wellington Total				0.25					
Grand Total				229.6249	228.75	206.875	196	175.125	164.75

PGDipScTech and MSc Biological Sciences

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Science (Honours)	Biological Sciences	NNE			1.75			
		Genetics	NNE	0.875	0.375				
	Master of Science	Biochemistry	NNE		1	1			
		Biological Sciences		3.375	6	8.375	7.5	6.25	7.5
		Genetics	NNE	0.5	5.25	4	2	0.5	
	Postgraduate Diploma in Science and Technolo	Biochemistry	NNE	0.75	0.75				
		Biological Sciences		1	3	0.5	0.875	1	
		Genetics	NNE	0.625					
Auckland Total				7.125	16.375	15.625	10.375	7.75	7.5
Manawatū	Bachelor of Science (Honours)	Biochemistry	NNE	1		1			
		Microbiology	NNE			1			
	Master of Science	Biochemistry	NNE	6	8.5	5.5	1.5		
		Biological Sciences		1.5	2	1	9.875	14.5	12.75
		Genetics	NNE	2.375	1.625	7.375	5.5	1.5	
		Microbiology	NNE	3	3.25	2.5	4.125	1.5	
		Plant Biology	NNE	3	2.75	4.25	2.5		
	Postgraduate Diploma in Science and Technolo	Biological Sciences				0.125	0.75	1.625	0.125
		Microbiology	NNE	2.25	1.75	3.5			
		Plant Biology	NNE		1	1.75			
Manawatū Total				19.125	20.875	28	24.25	19.125	12.875
Distance	Bachelor of Science (Honours)	Biological Sciences	NNE			0.25			
	Master of Science	Biological Sciences				0.125	0.375	1.5	1.5
		Genetics	NNE			0.125			
		Microbiology	NNE				0.125		
	Postgraduate Diploma in Science and Technolo	Biological Sciences					0.25	1.25	0.25
Distance Total						0.5	0.75	2.75	1.75
Grand Total				26.25	37.25	44.125	35.375	29.625	22.125

PGDipScTech and MSc Conservation Biology

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Master of Science	Conservation Biology		6.5	11.5	16.625	14.75	8	2.625
	Postgraduate Diploma in Science and Technolo	Conservation Biology		1.5	1.75	1.75	0.25	0.25	1.625
Auckland Total				8	13.25	18.375	15	8.25	4.25
Manawatū	Master of Science	Conservation Biology		3.875	2.75	1.5	1.875	2.25	0.875
	Postgraduate Diploma in Science and Technolo	Conservation Biology		1.25	2.875	3.75	0.5	0.5	
Manawatū Total				5.125	5.625	5.25	2.375	2.75	0.875
Distance	Master of Science	Conservation Biology			2.375	1.125	1.625	2.625	4.25
	Postgraduate Diploma in Science and Technolo	Conservation Biology		0.25	2	1.75	0.75	2	2.125
Distance Total				0.25	4.375	2.875	2.375	4.625	6.375
Grand Total				13.375	23.25	26.5	19.75	15.625	11.5

PGDipScTech and MSc Ecology

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Master of Science	Ecology					0.5		
Auckland Total							0.5		
Manawatū	Master of Science	Ecology		3.375	6.125	8.125	5.5	5.75	1
	Postgraduate Diploma in Science and Technolo	Ecology	NNE	0.25	1		0.75		
Manawatū Total				3.625	7.125	8.125	6.25	5.75	1
Distance	Master of Science	Ecology		0.25	0.75	1	0.25		
	Postgraduate Diploma in Science and Technolo	Ecology	NNE				0.25		
Distance Total				0.25	0.75	1	0.5		
Grand Total				3.875	7.875	9.125	7.25	5.75	1

PGDipScTech and MSc Zoology

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Master of Science	Zoology		0.375	1	2	1.75	0.5	3.75
	Postgraduate Diploma in Science and Technolo	Zoology			0.75	0.375			1
Auckland Total				0.375	1.75	2.375	1.75	0.5	4.75
Manawatū	Bachelor of Science (Honours)	Zoology	NNE			1			
	Master of Science	Zoology		5.125	3.25	5.75	8	9	6.5
	Postgraduate Diploma in Science and Technolo	Zoology			2.75	2.5	2	2	3
Manawatū Total				5.125	6	9.25	10	11	9.5
Distance	Master of Science	Zoology				0.125	0.25		0.25
	Postgraduate Diploma in Science and Technolo	Zoology					1.75	0.5	1.75
Distance Total						0.125	2	0.5	2
Grand Total				5.5	7.75	11.75	13.75	12	16.25

BSc specialisations – application of the NLEP

At the specialisation and course levels:

- The BSc Ecology and Conservation specialisation meets the NLEP specialisation threshold overall but not separately at Auckland or Manawatū. All 8 courses at Auckland do not meet the NLEP course threshold. 5 of the 8 courses at MTU do not meet the NLEP threshold;
- The BSc Molecular Cell Biology specialisation meets the NLEP specialisation threshold overall but not separately at Auckland or Manawatū. All 8 courses at Auckland and 6 of 9 courses offered at Manawatū do not meet the NLEP course threshold; and
- The BSc Zoology specialisation meets the NLEP specialisation threshold at Auckland and Manawatū. At Auckland 4 of the 8 courses do not meet the NELP course threshold, At Manawatū, 1 of the 8 courses does not meet the NLEP course threshold.

Application of the NLEP would indicate that:

- The BSc Ecology and Conservation specialisation would be discontinued;
- The BSc Molecular Cell Biology specialisation would be discontinued; and
- The BSc Zoology specialisation at each campus could continue, provided the enrolments could increase in those courses not meeting the threshold.

MSc specialisations – application of the NLEP

At the specialisation and course levels with nesting across the PGDipScTech and MSc:

- The Biological Sciences specialisation meets the NLEP specialisation threshold across Auckland and Manawatū, but not by Distance. There has been a restructuring to consolidate courses for 2024 so comparisons with NLEP course thresholds cannot be made at this point;
- The Conservation Biology specialisation meets the NLEP specialisation threshold by Distance but not at Auckland. At Auckland, 3 of six 700-level courses do not meet the NLEP course threshold. At Distance, 6 of 10 offerings of 9 courses do not meet the NLEP course threshold;
- The Ecology specialisation does not meet the NLEP specialisation threshold at Manawatū and by Distance, and all 3 offerings of two 700-level courses do not meet the NLEP course threshold; and
- The Zoology specialisation meets the NLEP specialisation threshold at Manawatū but does not meet it at Auckland. All three 700-level courses do not meet the NLEP course threshold.

Application of the NLEP would indicate that:

- The Ecology specialisation would be discontinued; and
- The Biological Sciences, Conservation Biology and Zoology specialisations would be maintained; but:
    - This would be provided that the enrolments could increase in those courses not meeting the threshold; and
    - It is noted that in the case of the Biological Sciences and Conservation Biology MSc specialisations the precursor BSc Ecology and Conservation and Molecular Cell Biology specialisations would be discontinued (see above).

Strategic considerations

Of the three related BSc specialisations (Molecular Cell Biology, Ecology & Conservation, and Zoology), only one (Zoology) meets the NLEP threshold. However, as noted above, these majors need to be considered together.

Massey University has a history of research and teaching in biology-related fields and there is rationale for Massey University to maintain a strategic intent in this area. While two of the three majors do not meet the NLEP thresholds, the Zoology major substantially exceeds the threshold. Given the inter-relationship of the majors and the strategic intent, there is a case for the more substantial EFTS in Zoology to provide a degree of cross-subsidisation for the other two majors.

Application of the Digital Plus Policy

The Digital Plus Policy requires consideration of the location of delivery for the BSc 'biologies' specialisations, including the case for continuing with an internal offer on both the Auckland and Manawatū campuses (vs. consolidation to a single campus) and the potential to develop online distance delivery for all three majors. At both Auckland and Manawatū, financial performance of the BSc biology majors and related postgraduate specialisations is well short of requirements, with the shortfall in margin per EFTS estimated to be larger at Auckland (approximately $17K/EFTS) than at Manawatū (approximately $11K/EFTS). It is therefore apparent that the college cannot sustain the resourcing of these subjects on two campuses. Therefore, in the context of the college's strategic intent to maintain teaching and research in these areas, the question of to which these campus activities should be consolidated must be addressed.

The curriculum requirement for integrated laboratory and fieldwork training has been a constraint in design of distance offerings; however, recent experience has suggested that there are viable ways to provide the required learning experience for students studying by distance and it can be argued that the distance market is one avenue for growth in domestic student numbers.

Consideration of current enrolments by campus

The 2023 EFTS for the set of three majors is substantially higher at Manawatū compared to Auckland (137 EFTS at Manawatū and 73 EFTS at Auckland).

Consideration of location of other related qualifications and service teaching

The dominant qualifications delivered by CoS from the Auckland campus are the Information Sciences and Construction qualifications. There are relatively few possibilities for the three BSc biology and postgraduate specialisations developing teaching and research relationships with these areas. The academic staff contributing to the three BSc biology specialisations do not contribute to the delivery of those qualifications.

Engineering and Food Technology qualifications are also delivered from the Auckland campus. There may be some areas of synergy between the three BSc biology specialisations and these qualifications, although the academic staff contributing to these specialisations do not contribute to the delivery of BE(Hons) and BFoodTech(Hons) qualifications.

At Manawatū the set of three BSc 'biology' majors and accompanying postgraduate specialisations has, and could further develop, interactions with teaching and research in the School of Agriculture and Environment (SAE) and the School of Veterinary Science (SVS).

There is substantial use of service courses delivered by academic staff contributing to the three BSc biology specialisations in the qualifications led by SAE and SVS. In particular, 162101 Cell Biology and 199103 Animals and the Environment are used in the BVSc Pre-Selection process and in the BAnSci.

Overall, there is a greater degree of qualification interaction on the Manawatū campus than the Auckland campus.

BSc Microbiology

The BSc Microbiology specialisation is only offered on the Manawatū campus. Subsequent postgraduate training is in the PGDipScTech and MSc Biological Sciences specialisations which have been proposed to be maintained. It is noted that there are some EFTS reported for delivery locations where the qualification is not available. These represent students enrolled in the qualification taking courses at other locations.

Table 41 lists the all-of-Massey University EFTS for the BSc Microbiology specialisation.

Table 41. All-of-University EFTS for the BSc Microbiology specialisation by campus of course enrolment for 2018-2023. Where applicable, EFTS from previously discontinued qualifications/specialisations (NNE) are included.

BSc Microbiology

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Science	Microbiology		0.875	0.125	0.125	0.125	0.25	
Auckland Total				0.875	0.125	0.125	0.125	0.25	
Manawatū	Bachelor of Business / Bachelor of Science	Microbiology	qual is NNE			0.375			
	Bachelor of Science	Microbiology		32	34.875	32	39.75	31.625	25
Manawatū Total				32	34.875	32.375	39.75	31.625	25
Distance	Bachelor of Business / Bachelor of Science	Microbiology	qual is NNE			0.375	1.125		
	Bachelor of Science	Microbiology		2.5	3	2.875	5.5	5	3.5
Distance Total				2.5	3	3.25	6.625	5	3.5
Grand Total				35.375	38	35.75	46.5	36.875	28.5

Application of the NLEP to BSc Microbiology

The BSc Microbiology specialisation does not meet the NLEP specialisation threshold in 2023, and 6 of the 8 courses do not meet the NLEP course threshold. However, EFTS have been consistently above threshold during the period 2018 – 2022.

Strategic considerations

It is not possible for a single biology specialisation to exist in isolation. There is a need for sufficient other courses for students to complete their non-majoring courses in areas that are complementary to the specialisation.

Should the three BSc biology specialisations be maintained on the basis of strategic considerations then there is the need to consider whether there is a strategic consideration for also maintaining the BSc Microbiology specialisation.

The BSc Microbiology shares three courses at 200- and 300-levels with the BSc Molecular Cell Biology and one 200-level course with the BFoodTech(Hons) qualification.

Massey University has qualifications and specialisations that either have explicit or peripheral delivery of microbiology subject material, including the BVSc, BAnSci, BAgSci, BHortSci and BFoodTech(Hons). In this context, microbiology remains an important fundamental discipline. The near-term future challenge is to build student interest in the BSc specialisation and further harness synergies with food and veterinary microbiology.

BSc Plant Science and PGDipScTech and MSc Plant Breeding

The BSc Plant Science specialisation is only offered on the Manawatū campus. Subsequent postgraduate training is either:

- in the PGDipScTech and MSc Biological Sciences specialisations, or
- in the nested PGDipScTech and MSc Plant Breeding specialisation.

The MSc Biological Sciences specialisation is not considered here. The MSc Plant Breeding specialisation requires consideration in this section alongside the BSc Plant Science specialisation.

Some courses have been developed for delivery by Distance and there are possibilities for extending the entire specialisation to Distance delivery.

Table 42 lists the all-of-Massey University EFTS for the BSc Plant Science and the PGDipScTech and MSc Plant Breeding specialisations. It is noted that there are some EFTS reported for delivery locations where the qualification is not available. These represent students enrolled in the qualification taking courses at other locations.

Table 42. All-of-University EFTS for the BSc Plant Science and the PGDipScTech and MSc Plant Breeding specialisations by campus of course enrolment for 2018-2023. Where applicable, EFTS from previously discontinued qualifications/specialisations (NNE) are included.

BSc Plant Science

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Science	Plant Science		0.5	0.5	0.5			
Auckland Total				0.5	0.5	0.5			
Manawatū	Bachelor of Arts / Bachelor of Science	Plant Science	qual is NNE	0.375	0.75				
	Bachelor of Science	Plant Science		23.5	22	20.75	15.5	9.25	8.375
Manawatū Total				23.875	22.75	20.75	15.5	9.25	8.375
Distance	Bachelor of Arts / Bachelor of Science	Plant Science	qual is NNE	0.75	0.375				
	Bachelor of Science	Plant Science		3.5	2.375	1.875	1.125	1	1.75
Distance Total				4.25	2.75	1.875	1.125	1	1.75
Grand Total				28.625	26	23.125	16.625	10.25	10.125

PGDipScTech and MSc Plant Breeding

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Manawatū	Master of Science	Plant Breeding		6	4.5	1.5	2.25	2.625	2.375
	Postgraduate Diploma in Science and Technolo	Plant Breeding		0.25	2.125	1.75	1.25	0.25	0.125
Manawatū Total				6.25	6.625	3.25	3.5	2.875	2.5
Distance	Master of Science	Plant Breeding						0.375	
	Postgraduate Diploma in Science and Technolo	Plant Breeding							0.25
Distance Total								0.375	0.25
Grand Total				6.25	6.625	3.25	3.5	3.25	2.75

Application of the NLEP to the BSc Plant Science and the PGDipScTech and MSc Plant Breeding specialisations

At the specialisation and course level:

- the BSc Plant Science specialisation does not meet the NLEP specialisation threshold and 7 of the 8 courses do not meet the NLEP course threshold; and
- the nested PGDipScTech and MSc Plant Breeding specialisation does not meet the NLEP specialisation threshold and 3 of 4 courses do not meet the NLEP course threshold.

This would suggest that the BSc Plant Science and PGDipScTech and MSc Plant Breeding specialisations would be discontinued.

Strategic considerations

As identified earlier, Massey University has a strategic interest in maintaining capability in biology at bachelor's and master's level.

The BSc Plant Science specialisation shares two courses at 200- and 300-levels with the BSc Ecology and Conservation specialisation, one 200-level course with the BSc Molecular Cell Biology and Microbiology specialisations, and one 200-level and one 300 level course with the BHortSci qualification.

The Massey University BVSc, BAnSci, BAgSci, BHortSci and BFoodTech(Hons) qualifications, and the aforementioned BSc biology specialisations, all involve the study of plants, or products of plants, to some extent. As such, this would indicate a need to provide undergraduates with an extent of plant science training through provision of individual courses.

BSc Chemistry and MSc Chemistry

The BSc Chemistry and MSc Chemistry specialisations are only offered on the Manawatū campus having been discontinued on the Auckland campus from 2021. The BSc (Hons) was discontinued in 2021 and the PGDipScTech Chemistry specialisation (nested with the MSc) was discontinued in 2022.

Table 43 lists the all-of-Massey University EFTS for the BSc Chemistry and the MSc Chemistry specialisations. It is noted that there are some EFTS reported for delivery locations where the qualification is not available. These represent students enrolled in the qualification taking courses at other locations.

Table 43. All-of-University EFTS for the BSc Chemistry and MSc Chemistry specialisations at Manawatū, together with closed specialisations and previous offerings at Auckland by campus of course enrolment for 2018-2023. Where applicable, EFTS from previously discontinued qualifications/specialisations (NNE) are included.

BSc Chemistry

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Business / Bachelor of Science	Chemistry	qual is NNE	1.125	1	0.875	0.875		
	Bachelor of Science	Chemistry		20.625	21.5	16.5	9.125	4.375	1.125
	Graduate Certificate in Science and Technology	No Specialisation - Chemistry pathw	NNE			0.5			
Auckland Total				21.75	22.5	17.875	10	4.375	1.125
Manawatū	Bachelor of Arts / Bachelor of Science	Chemistry	qual is NNE				1		
	Bachelor of Science	Chemistry		47.375	39	32.25	20.625	21.375	22.75
Manawatū Total				47.375	39	32.25	21.625	21.375	22.75
Distance	Bachelor of Business / Bachelor of Science	Chemistry	qual is NNE	1		0.375	0.125		
	Bachelor of Science	Chemistry		7.625	6.875	7.25	5.5	3.875	5.875
Distance Total				8.625	6.875	7.625	5.625	3.875	5.875
Grand Total				77.75	68.375	57.75	37.25	29.625	29.75

MSc Chemistry

Delivery location	Programme Title	Specialisation	NNE	2018	2019	2020	2021	2022	2023
Auckland	Bachelor of Science (Honours)	Chemistry	NNE	3		1			
	Master of Science	Chemistry			1	1.5	1.5	2	1
Auckland Total				3	1	2.5	1.5	2	1
Manawatū	Bachelor of Science (Honours)	Chemistry	NNE	1	2	2			
	Master of Science	Chemistry		5.5	4.5	4.25	4.25	5.875	2.5
	Postgraduate Diploma in Science and Technolo	Chemistry	NNE		1				
Manawatū Total				6.5	7.5	6.25	4.25	5.875	2.5
Grand Total				9.5	8.5	8.75	5.75	7.875	3.5

Application of the NLEP to the BSc Chemistry and the MSc Chemistry specialisations

At the specialisation and course level:

- the BSc Chemistry specialisation does not meet the NLEP specialisation threshold at Manawatū, and all of the 8 courses do not meet the NLEP course threshold; and
- the MSc Chemistry specialisation does not meet the NLEP specialisation threshold at Manawatū, and both of the two 700-level courses do not meet the NLEP course threshold.

This would suggest that the BSc Chemistry and MSc Chemistry specialisations would be discontinued.

Strategic Considerations

Chemistry is viewed at many universities as being an important foundational discipline. Massey University has qualifications and specialisations that either have explicit or peripheral delivery of chemistry subject material. These include the BVSc, BAnSci, BAgSci, BHortSci, BFoodTech(Hons), BE(Hons), and many of the BSc specialisations.

The BSc Chemistry shares two courses at 200-level and one course at 300-level with the BFoodTech(Hons) qualification, and two of these are also shared with the BE(Hons) Chemical and Bioprocess Engineering major.

Given that three of the eight courses required in the BSc Chemistry specialisation are shared in the BFoodTech(Hons), continuing to offer the Chemistry specialisation would assist with maintaining the

enrolments in those required courses (i.e., choosing to not continue that specialisation would decrease the viability of the BFoodTech(Hons) at an NLEP course level).

Further, maintenance of the 5 courses unique to the BSc Chemistry specialisation would provide additional elective options within the BSc for students studying a range of specialisations.

Appendix 6: Job Descriptions

Job Descriptions for new positions

Senior Lecturer/Associate Professor in Food Technology, Jiangnan delivery (link here)

Lecturer/Senior Lecturer in Food Technology (link here)

Senior Technician – Chemistry, Grade GEN5 (link here)

Senior Technician – Molecular Biosciences, Grade GEN5 (link here)

Senior Technician – Product Development, Grade GEN5 (link here)

Appendix 7: Summary of feedback received to the Proposal for Change released on 2 October 2023 and the Preliminary Decision released on 27 November 2023

Overview

Feedback on the Proposal for Change was sought from staff and students, including those in affected Schools and more widely across the College and University. Feedback was also sought from external stakeholders including iwi, industry partners, future students and their advisers. Written responses were provided by email or through a web portal. Feedback was also collected during multiple meetings with individual and groups of staff, students and other stakeholders.

In response to the original proposal for change, there were 596 submissions of written responses, some of which were duplicate (Table 44, Figure 4). The responses included some from individuals and some from groups. Feedback was received on all aspects of the Proposal for Change. Some of the feedback was in the form of alternative proposals, including a comprehensive alternative proposal from the TEU.

Almost all of the submissions opposed the proposed changes, however there was some recognition of the need to establish a sound financial footing. A small minority of submissions supported some or all of the proposed changes. A number of submissions provided general or specific alternative suggestions.

In response to the Preliminary Decision, there were 74 submissions of written responses (Table 44, Figure 4). The responses included some from individuals and some from groups. Feedback was received on several specific aspects of the Proposal for Change. Some of the feedback was in the form of alternative suggestions for teach out and suggested changes to teaching, school structure or position alignment for the final decision.

Many of the submissions continued to oppose the proposed changes, however there was some recognition of positive aspects of some decisions taken in the Preliminary Decision.

Table 44A: Feedback responses received regarding the Proposal for Change. Some responses were by email and others were webform submissions. Some were from individuals and some from groups. Duplicate submissions were not removed from the data presented.

Main subject of submission	Group							Total
	Staff	Student	Alumni	External	Future student	Parent/ adviser	CoS Board	
Proposal in general	21	109	13	3	5	6	3	**160**
Engineering	12	65	13	6	1	6		**103**
Food Technology	6	55	16	18		1		**96**
Plant Science	5	5	7	13	3			**33**
Quality Systems		1						**1**
Supply Chain Management		8			1			**9**
Natural Sciences Auckland	16	8	2	11	3	1		**41**
Natural Sciences Manawatū	12							**12**
Postgraduate study		7		1				**8**
Alternative proposals	9							**9**
Technical staffing	14							**14**
Other Colleges' programmes	3	12						**15**
Other CoS programmes		49						**49**
MGS and/or MMIC	9	1	2	6				**18**
Postharvest Technology	1			2				**3**
FoodPilot	2							**2**
Riddet	1							**1**
SAPU				1				**1**
Individual staff position	21							**21**
Total	**132**	**320**	**53**	**61**	**13**	**14**	**3**	**596**

Table 44B: Feedback responses received regarding the Proposal for Change – Preliminary Decision. Some responses were by email and others were webform submissions. Some were from individuals and some from groups. Duplicate submissions were not removed from the data presented.

Main subject of submission	Group					Total
	Staff	Students	Alumni	External	Future Student	
Alternative Proposal	3			1		4
Engineering	2	3			1	6
Food Technology	14	7	1	1		23
Individual Staff Position	6					6
MGS	1					1
Plant Science	6					6
Post Harvest	2					2
SNS - Auckland	8	6		2		16
SNS - Chemistry	2					2
SNS - Manawatu	6			1		7
SNS-Chemistry				1		1
Total	**50**	**16**	**1**	**6**	**1**	**74**

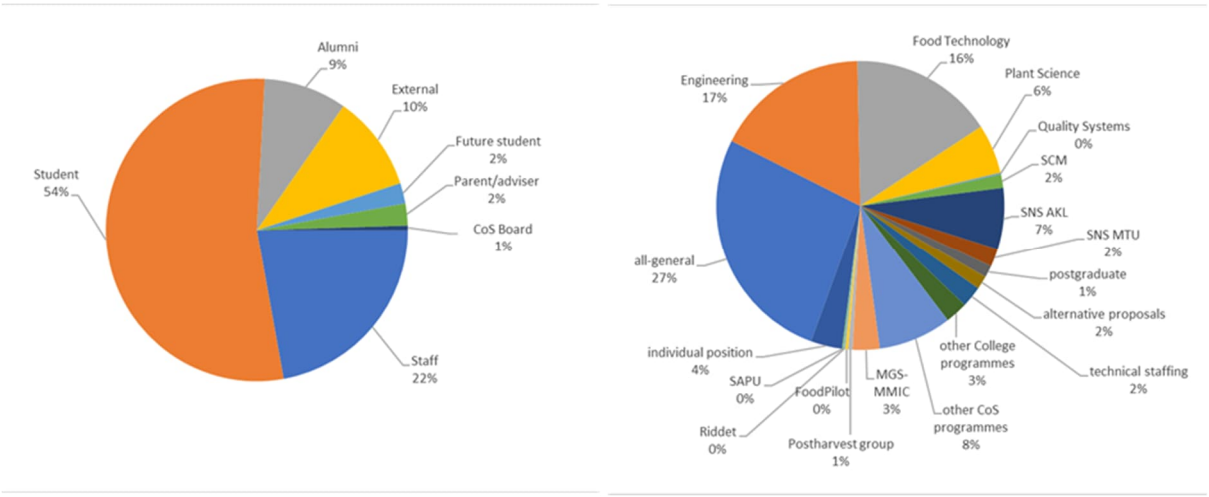

Figure 4A: Distribution of feedback responses to the Proposal for Change by submitter group and main subject of response

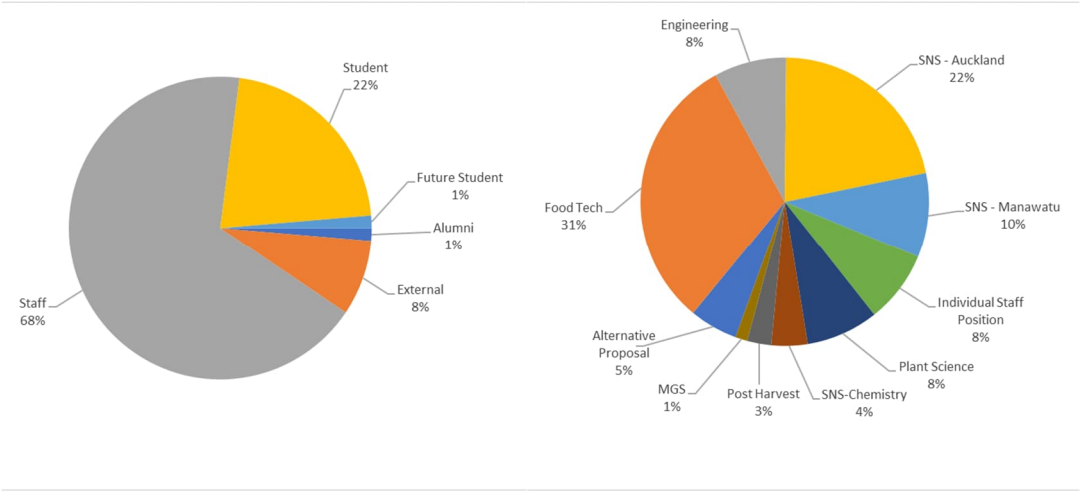

Figure 4B: Distribution of feedback responses to the Proposal for Change – Preliminary Decision by submitter group and main subject of response

Consideration of feedback

All of the feedback, from both rounds of consultation, has been collated and considered. There were a number of common themes which are summarised below. Additional feedback in response to the Preliminary Decision is provided in a separate column.

The Preliminary Decision incorporates changes that respond to feedback as indicated in the following sections. Where feedback has suggested changes that were not incorporated, the reasoning is summarised.

General Feedback Themes

Feedback theme	Feedback Response – First Round of Consultation, Original Proposal	Feedback Response – Second Round of Consultation, Preliminary Decision
Criticisms of the process		
Timing of the proposal document and timeline for consultation and decision making	There was concern about the timing of the Proposal for Change and I acknowledge the difficulties arising from the proximity to exam time and the end of the year. The scale of financial challenges facing the college and the need to provide certainty for our students meant that there has been no alternative of delaying proposals until the new year. There were also concerns raised about the timeline for consultation and decision making with urgency requested by students and delays requested by staff. I have responded by providing an extension in the timeline, recalling that consultation commenced on 2 October 2023 (more than 7 weeks ago). It is important that we reach a final decision as soon as possible so that there is clarity for students and staff about what will be happening in 2024.	No further response
Communication and consultation	A concern from many respondents was that a more collaborative process involving earlier communication and more detailed planning before release of a proposal should have been undertaken. Students were concerned about being notified later than staff. The nature of a Proposal for Change process means that it was not possible to provide detailed plans for student study should proposals proceed as described, and this has caused a great deal of anxiety. There also was feedback that the proposal process was not conducted in a Te Tiriti-led manner.	There was further student feedback about the timing of the proposal and the anxiety caused if they must move early in 2024 to continue study. With the Final Decision, we are providing as much information as we can to support students and their decisions.

Feedback theme	Feedback Response – First Round of Consultation, Original Proposal	Feedback Response – Second Round of Consultation, Preliminary Decision
	I reiterate a firm commitment to genuinely engage with feedback during consultation and to work with individual and groups of students on their options as soon as decisions are signalled. There was also feedback that insufficient detail had been provided in the proposal documents. The proposal provided extensive detail about financial matters not usually shared as widely. I have responded to requests for more detail with further releases of information where we are able to give it.	
Criticism of the strategy for improving the financial position		
Denial of issue, scale, or urgency	The financial focus of the Proposal for Change was criticised on the basis of denial of the scale or urgency of the issue, or assertions that it could be solved by reallocation or reductions of expenditure within the University to protect Colleges, or by waiting for increases in government funding. An additional perspective was that the role of universities and their educational and research outputs are of such importance as to outweigh any financial considerations. These responses ignore the very real threat to the operation of the University as a whole from the College's financial position. To be blunt, unless urgently reversed, the current financial trajectory risks eventual closure of the whole University. Margin contributions are costs to operation of the College and are not optional. The proposed changes in CoS are supported by restructures and revisions of expenditure budgets in every other college and unit within the University, but this will still be insufficient unless CoS also contributes our share of savings. We acknowledge and support all the important contributions made by our staff and students to society but in order to have operating funds to achieve important outcomes in the future, we must find ways to reduce expenses to less than income and operate within our means.	There was further feedback asserting that reduction in expenditure (usable floor area, consumable costs and other non-staff costs) would negate the need for further change, particularly the loss of staff from the college. We acknowledge the suggestions of ways to decrease expenditure (as well as suggestions to increase EFTS and income). Some of these approaches were incorporated into the proposal and remain in the final decision e.g., decrease in UFA utilization.
Opposition to loss of valued people and academic offerings	A great deal of feedback opposed the proposed loss of qualifications and staff on the basis of their value and importance to the University, community, industry, environment, and country. There was concern about potential losses of curriculum breadth; staff expertise; connections with iwi, communities, and industry; research funding; and research outcomes. I acknowledge the significant contributions of those affected by the proposal for change and the value of the curriculum areas proposed for cessation. I also acknowledge the concern about the potential loss of staff, academic offerings, research capability, income, and outputs. I reiterate that the financial situation is such that we cannot afford to sustain all of our current	There were submissions that reiterated the importance of a variety of disciplines to the University, industry, the community, and the country. Notwithstanding the difficult decisions to discontinue engineering qualifications and consolidate some areas, the college retains a breadth of subject areas and qualifications upon which to further build impact in teaching and research.

Feedback theme	Feedback Response – First Round of Consultation, Original Proposal	Feedback Response – Second Round of Consultation, Preliminary Decision
	activities. The Proposal for Change focusses on the areas that are not financially sustainable in their current form, taking into account the University's strategic objectives and the application of Digital Plus and No and Low Enrolment policies.	
Criticism of approach of cutting costs rather than growth of income	There was feedback that CoS should focus on increasing income through growth instead of focussing on reducing costs. There were concerns that the proposed approach would lead to a loss of income, would harm future growth by reducing breadth and affecting reputation, and has not worked in the past. In response, I would point out that the Proposal for Change has not shied away from the predicted loss of income associated with the proposals. By reducing expenses more than income our position will nevertheless be improved. I think there is a need for both cost cutting and growth and these initiatives sit alongside each other. Growth strategies are slow, and the extent of growth needed to correct our current situation is unrealistic within a 1-2 year timeframe and would need to be achieved without increasing costs (see Additional Information 1).	The issue of growth was again raised in feedback on the Preliminary Decision. There were submissions detailing how growth could be achieved in a variety of areas. However, these submissions often included a timeline of years to achieve the anticipated growth, and some respondents acknowledged that a considerable subsidy would be required to 'buy time' for realization of growth aspirations.
Criticisms of the analyses underpinning the Proposal for Change		
That the data and analysis are perceived as inaccurate and/or biased	The Proposal for Change was underpinned by a complex analysis of financial data which necessitated modelling and estimation in some areas. Some feedback pointed to the data and analysis as inaccurate and/or biased. We have carefully reviewed all aspects of the analysis, commissioned an independent review of the methodology (PWC), and taken feedback into consideration in preparing a revision to the financial forecasts. Many of the issues noted by respondents were misunderstandings of the data presented and attempts have been made to clarify these. The independent review by PWC identified no material issues with the calculations underlying the analysis. In the case of charges for space (UFA), the feedback helped us identify and correct how Estates were charging the College. New details of UFA charges were circulated as soon as this correction was made. It is noted that while these changes lead to substantial positive revisions in the financial picture, the overall financial picture has changed little from this correction. I acknowledge that there are ongoing concerns about the UFA being attributed to SFAT and SNS (and individual AMGs within schools). A reduction	There were submissions that included corrections or updated information, with respect to the Preliminary Decision, for consideration and we appreciate being notified of these. None of these changes have altered tables or information within the Preliminary or Final Decision significantly. The overall picture of the college finances, EFTS and other information remains the same.

Feedback theme	Feedback Response – First Round of Consultation, Original Proposal	Feedback Response – Second Round of Consultation, Preliminary Decision
	in total UFA remains a key objective for the College and this process will provide opportunity to ensure fair attribution of UFA charges to schools. There were also criticisms that the organisation does not keep sufficiently detailed records of operational expenditures. We anticipate that several systems will be updated within the University to enable better tracking of expenses in future. However, there is a balance between the level of accounting detail we track and costs involved in tracking that detail. The level we track is accepted best practice, and developing and sustaining a finer-grain level of accounting would add to our administrative operational costs, resulting in even less resource available to support our core missions in teaching and research.	
Feedback on downstream effects of the proposed changes		
Impact for current students	Many concerns were expressed as to how the changes to curriculum would affect current students and there were widespread calls for a teachout for all current students. I acknowledge that the normal expectation is that we would teach out all qualifications but need to indicate that it is a sign of the severity of the current financial situation that I have proposed to facilitate transfers rather than a teachout option in some courses. This proposal is not a matter of choice – we simply do not have the operating capacity to continue to teach students until completion in all areas. We have carefully looked at what would be involved in teaching out each area of the curriculum and in the preliminary decision have indicated the following areas where we would support a limited teachout, for example: 1. Year 4 BE(Hons) students in 2024 at each campus who can complete in 2024 2. MEngSt students at each campus who can complete in 2024 3. Supply Chain Management undergraduate and postgraduate students at Auckland who can complete by the end of 2025 4. Quality Systems students postgraduate students at Auckland who can complete by the end of 2025 5. All engineering and natural sciences doctoral students and masters thesis students who can complete within expected timelines. As far as possible this will be at their current campus location.	There were further calls for teach out for a variety of qualifications, from both staff and students. Some staff submissions have included detailed plans for teach out to support transition for students and we appreciate the information provided and the commitment to the support of student progression. The approach to be taken balances the desire to enable teach out with the need to bring operational expenses in line with revenue. Therefore, we cannot offer a teach out option in all situations. Much of the student feedback centered on the need for transfer to another Massey campus location or to another University, and the impact that this would have on students. Relocation will be an option for many students for continued study, and we will work to financially support students according to their individual need if that option is selected. We have also endeavored to offer more than one solution to students so they can select an option that best suits their personal circumstances. We will also work to support students in interactions with Immigration NZ should a change in visa conditions be necessary. We also note the comments from staff and students about the alteration of PhD supervisory teams; work on this will be high priority following release of the Final Decision.

Feedback theme	Feedback Response – First Round of Consultation, Original Proposal	Feedback Response – Second Round of Consultation, Preliminary Decision
	I understand that there will be significant implications for other students. We are committed to providing good options for each student to finish their qualification and to supporting them to do so. As stated in the proposal, where transfer to another University is one of the options, we will negotiate with the other University(s) to smooth those transfers. Universities are willing and able to work with each other in these types of circumstances to facilitate student mobility. Negotiations will include pre-approval of personal variations of study where these are necessary to align programmes across institutions. For the BE(Hons), we will also work with Engineering NZ to follow their process for maintaining accreditation through a period of closedown of the qualification. Engineering NZ have processes in place to manage these situations and we will ensure that we follow their guidance so that accreditation of qualifications can be maintained. I understand also that the potential of having to move location of residence to continue to study brings many personal and financial challenges to students. Should relocation be one of the options for continued study, we will work to financially support students according to their individual need. We will also work to support students in interactions with Immigration NZ should a change in visa conditions be necessary.	
Effects on research	The potential for effects of the proposed changes on research output, quality, and research funding were the subject of much feedback. We acknowledge the importance of research and research rankings to the University, and we also acknowledge that associated with any staff-related downsizing will be a reduction in output and funding. We also acknowledge that some of our top researchers are affected by the proposal for change. While this is a regrettable position, reductions in academic offer must focus on the coherence of the academic offer. We cannot support areas of the curriculum with insufficient enrolments simply because we have research active staff in those areas. We also cannot rely on research income to support teaching because it is, at best, a cost neutral activity. We need a secure financial footing to support research, and that comes from focusing on our primary source of income—teaching.	Comments on the effects of the changes on research, PBRF, and future rankings were reiterated in the feedback. Again, these impacts are acknowledged but, as noted previously, also viewed in the context of the need to address our challenges.
Effects of proposed changes on other qualifications	Several submissions noted effects on the curriculum related to reducing choice of courses for other science programmes and some specific issues for other qualifications were noted. In particular,	Some of the issues raised in the consultation have been considered and incorporated into the Preliminary Decision and remain unchanged in the Final Decision.

Feedback theme	Feedback Response – First Round of Consultation, Original Proposal	Feedback Response – Second Round of Consultation, Preliminary Decision
	• The role of 120101 Plant Biology as a foundational course for several programs and specializations was noted. We have considered this and the preliminary decision is to retain this course in the curriculum (alongside the Preliminary Decision to retain the Plant Science and Plant Breeding specialisations). • Concern that loss of Auckland staff in SFAT will lead to gaps in expertise for teaching in the Food Technology and postgraduate programmes. We have considered this and are proposing new Food Technology academic and technical positions for MTU to strengthen capacity and capability. • An indication that the Certificate and Diploma in Border and Biosecurity require Plant Science courses and 240260 Logistics and Supply Chain Fundamentals. The Preliminary Decision to retain Plant Science addresses the first component. It is acknowledged that alternative plans will be needed to cover supply chain teaching in the Border and Biosecurity qualifications but in the short term, 240260 would continue to be offered as part of the teachout plan for the Supply Chain Management qualifications. • Concern about the loss of the higher-level physics courses used for Food Technology students. Curriculum mapping will be undertaken to ensure that the physics requirements for Food Technology can be met. • Concerns over effect of removal of Engineering on the Food Technology programme due to interdependency. This concern is acknowledged and is, in part, addressed by the Preliminary Decision to retain Food Process Engineering. • Effects on the Horticulture qualification of loss of Plant Science, Plant Breeding and Postharvest Technology expertise and teaching that are important to this programme. We have considered this concern and the preliminary decision is to retain Plant Science, Plant Breeding and Postharvest Technology. Moreover, to better leverage our distinctive expertise in these areas, the preliminary decision is to align Plant Science and Plant Breeding teaching and research, and Postharvest Technology research and industry engagement with the School of Agriculture and Environment to consolidate horticulture and related activities.	

Feedback theme	Feedback Response – First Round of Consultation, Original Proposal	Feedback Response – Second Round of Consultation, Preliminary Decision
Effects on staff workload	Concerns were raised about the effects of the proposed changes in staffing on workload for remaining staff. In respect to academic staffing, I would point out that the proposal decreases course offerings at the same time as staffing and maintains SSRs at the 2023 levels. The proposed changes will also reduce the number of small enrolment course offerings with a reduction in overall workload. In regard to technical workload, a number of changes are signalled in the preliminary decision based on feedback which increase the number of technical positions over what was initially proposed (see next item).	The impact of staff losses on the workload of remaining staff was again a significant area of concern raised in feedback on the Preliminary Decision, particularly in situations where cross-campus team teaching has been established but also in relation to the workload of technicians (see below). The balancing of workload with 'affordability' of staffing levels has been a challenge for the college as a whole for some time and we will need to continue work to identify ways to achieve a reasonable balance between these factors.
Technical staffing	There was considerable feedback indicating concerns about the level of proposed reductions in technical staffing, differentiation in SSRs across areas, as well as feedback about specific groups and individuals. This feedback has been considered and the need for adequate staffing levels to cover overall workload and support health and safety has been recognised. Consequently, the Preliminary Decision incorporates a proposal for a single technical SSRs to be applied across the proposed new school, at a lower SSR than previously proposed, resulting in higher technical staffing levels being proposed in the Preliminary Decision.	This was a significant area of concern within the feedback on the Preliminary Decision. The original Proposal for Change and the subsequent Preliminary Decision described application of technical staff student-to-staff SSRs in a similar manner to that for establishing academic staffing levels. However, subsequent feedback and further analysis in response to that feedback, in particular workload and recognition of the frequency with which laboratories at different levels need to operate in the same subject area, has meant that rigid SSRs were not incorporated in this final decision. Accordingly, further changes (an increase) to technical staffing levels have been included in the Final Decision. The feedback also raised concerns about the workload implications associated with increased compliance requirements and the discontinuation of services previously provided by the central University. These topics will be high priority for discussion and resolution with implementation of the Final Decision.

Feedback about specific units or disciplines

Feedback theme	Feedback Response, First Round of Consultation, Original Proposal	Feedback Response – Second Round of Consultation, Preliminary Decision
Massey Genome Service (MGS)	There was substantial internal and external feedback indicating the value and ongoing demand for the MGS and the opportunity for further development of the business. Further analysis of the financial performance has shown that MGS has, for the most part, achieved a breakeven position over the last 3-4 years. The preliminary decision is to support the continued operation of MGS.	There was feedback from a staff member that supported the decision both to retain the MGS and return it to the management of the PVC's office.

Feedback theme	Feedback Response, First Round of Consultation, Original Proposal	Feedback Response – Second Round of Consultation, Preliminary Decision
Manawatū Microscopy and Imaging Centre (MMIC)	As for MGS, there was substantial internal and external feedback indicating the value and ongoing demand for the MMIC and the opportunity for remediating the financial performance through reviewing cost and revenue structures. The preliminary decision is to support the continued operation of MMIC.	No further feedback was received.
Postharvest Technology Group	There was substantial internal and external feedback regarding the distinctive importance of this group, its integration into the Food Technology and Horticulture curriculum, opportunities for strengthened integration with Horticulture and Plant Science, and mechanisms by which it could become financially sustainable. The preliminary decision is to retain the Postharvest Technology Group.	Feedback received agreed with the Preliminary Decision, specifically the move to retain and amalgamate the Post Harvest Group within the School of Agriculture and Environment, alongside Plant Science and Horticulture, was viewed positively. It was noted that there are significant opportunities to reinvigorate these areas, whilst acknowledging some of the challenges.
Food Technology		There was a significant amount of feedback received regarding Food Technology, and this was received from staff, students, alumni and an external party. The positive aspects of the Preliminary Decision were welcomed, and challenges identified for the group moving forward following implementation of the Final Decision. Some suggestions made within this feedback has been incorporated into the Final Decision and others warrant further consideration and discussion as we seek to strengthen Massey's excellence and impact in Food Technology. It was suggested that Food Technology should move to the School of Agriculture and Environment (SAE) rather than form part of the new school given the natural alignment between agriculture and food (e.g. the notion of 'paddock to plate'). Internationally, there are schools that host programs in both agriculture and food. Equally, however, there are also colleges and faculties in which agriculture and food science & technology are housed within different schools or departments, a situation that does not appear to constrain opportunities to integrate teaching and research activities, nor the ability to promote the university's strength across the agrifood continuum. The final decision is to incorporate Food Technology into the new school but recognising the need to continue to strongly promote Massey's strength and impact in agrifood in 2024 and beyond. With regards to new academic positions in Food Technology, the need to refine job descriptions to align with expertise 'gap areas' was raised. This is an excellent point and I will request the support of the Food Technology group to lead this preparation for the recruitment process early in 2024.

Feedback theme	Feedback Response, First Round of Consultation, Original Proposal	Feedback Response – Second Round of Consultation, Preliminary Decision
FoodPilot	There was feedback suggesting the FoodPilot reporting line be changed to the PVC CoS Office to support its strategic direction and the remediation of its financial performance. The preliminary decision is to shift the reporting line to the PVC CoS Office.	Feedback regarding the move of the Food Pilot reporting line to the PVCs Office was received from several submitters. The role of the FoodPilot in teaching and research is understood and noted. The FoodPilot General Manager is working on an SLA model to clarify and ensure teaching functions are supported.
SAPU	There was feedback on the contractual obligations of the unit. The preliminary decision is to close SAPU after the completion of current contractual obligations.	No further feedback was received.
Cetacean Ecology Research Group	There was substantial feedback regarding the work of the Cetacean Ecology Research Group, and the risks to important partnerships with hapū and iwi in relation to shared kaupapa involving taonga species. In addition, there was concern about how the secure storage of taonga species, archive material and research from the Ngā Tahu takiwā would continue to be kept safe and stored in culturally appropriate and modern facilities. The preliminary decision is to support the continued operation of the Cetacean Ecology Research Group.	Feedback submitted raised the issue of technical support for this group and workload. This requires follow-up discussion in the context of a sustainable operating model for this research group.
Engineering		Feedback for Engineering raised several issues including the ranking of the current programme. This is acknowledged but, as detailed in the proposal, several factors were considered in making the difficult decision to discontinue engineering programmes at Massey. There were further suggestions made regarding the retention of MEngSt and the incorporation of a robotics or automation major into the BInfSci. Viability of the MEngSt without the underpinning BE(Hons) is a concern. Concern was raised regarding technical staff workload for the Engineering Workshop in the Operations Group of the new school. The Head of School will continue to work with staff on the management of resourcing and workload.
Plant Science		The change in reporting line and location of Plant Science, and Post Harvest Technology, to be alongside Horticulture activities within the School of Agriculture and Environment was generally seen as positive in the feedback. This is supported by external stakeholders. The advantages and challenges of these changes were articulated by various staff members, and their input and suggestions are appreciated, as well as their willingness to collaborate and strengthen the activities within the group. There was recognition of the importance of increasing EFTS within the

Feedback theme	Feedback Response, First Round of Consultation, Original Proposal	Feedback Response – Second Round of Consultation, Preliminary Decision
		programmes to become financially sustainable (including transitioning the Plant Science major to be fully available by Distance).

General alternative suggestions and proposals

Feedback theme	Feedback Response, First Round of Consultation, Original Proposal	Feedback Response, Second Round of Consultation, Preliminary Decision
Proposed ways of growing student numbers	There were a number of suggestions regarding ways to increase enrolments and these are appreciated. As discussed above, growth is a good long-term strategy but will not solve our immediate issues. These suggestions will be useful for the future. One point that needs to be addressed is the potential for population growth in Auckland to provide a source for enrolment growth. I acknowledge the rapid population growth in the Auckland regions and the likely effect on increasing Auckland enrolments over time. However, the scale and pace of potential growth needs to be put into perspective against the scale of enrolment growth required to provide financial security and the urgency of change needed for us to operate sustainably. It is implausible that a regional population increase at a rate of 2.8% (Subnational population estimates: At 30 June 2023 | Stats NZ), or even triple that, could achieve a 90-400% increase in EFTS in natural science disciplines on the Auckland campus for 2025, especially when, across the tertiary sector, enrolments are declining (Tertiary participation | Education Counts). See Additional Information 1 for more detail on the scale of enrolment growth required. A recurrent theme was the need to adopt different approaches in marketing to achieve growth in student numbers. I have noted in CoS forums that an increase in marketing and communications activities will be required, following the Proposal for Change process, to restore profile and reputation. A number of potential marketing strategies have been proposed, many of which are already being worked on via the College's Engagement Committee. However, some of these ideas would require significant budget or staff workload provision, as well as co-ordination at College or University level. Where possible, we will take these ideas forward on the understanding that marketing and communication require support from academic staff and often our students as well.	There were several suggestions received regarding ways to increase enrolments and, again, these ideas are appreciated, as well as the suggestion that we explore further the reasons why enrolments have declined so that we may identify solutions. The issue of population growth in Auckland was emphasized as a missed opportunity for enrolment growth. The response to this feedback remains the same. Marketing, student recruitment and the interactions between the college and central support teams was again raised, as well as suggestions for improving relationships and outcomes. The need to increase or improve marketing and communications of our qualifications remains imperative for 2024 and beyond, and this is recognized. As stated before, a number of potential marketing strategies have been proposed, many of which are already being worked on via the College's Engagement Committee. However, some of these ideas would require significant budget or staff workload provision, as well as co-ordination at College or University level. Where possible, we will take these ideas forward on the understanding that marketing and communication require support from academic staff and often our students as well. Reinstatement of the BVSc Pre-Selection in Auckland was also reiterated to improve enrolments in CoS qualifications. The response remains the same.

Feedback theme	Feedback Response, First Round of Consultation, Original Proposal	Feedback Response, Second Round of Consultation, Preliminary Decision
	Reinstatement of the BVSc Pre-Selection was also suggested and has been investigated based on historical data (see Additional Information 2). Although the expected associated EFTS increases may contribute to individual specialisations reaching NLEP thresholds, overall the expected increases are small in scale in relation to the EFTS growth required for financial sustainability of natural science programmes on the Auckland campus (see Additional Information 1).	
Additional income streams	Suggestions for additional income streams included partnerships with industry, although offers for direct financial support were not apparent in the industry feedback. There was feedback from one of the student associations suggesting student fees be increased. I appreciate this suggestion from students, however the TEC/Government/Cabinet closely controls the fees we are allowed to charge and, under the current rules, this is not an option. Other suggestions included waiting to see what changes in government funding would arise from the planned sector evaluation. However, we cannot wait for this, as our situation grows worse year on year and must be addressed with urgency. Our funding body (TEC) is working closely with Massey on its Financial Recovery Plan, which includes consideration of the CoS Proposal for Change. Other suggestions centred around the leasing of vacated space to generate additional income. This already occurs and, as the Vice Chancellor has indicated, will continue to be used in future where appropriate.	Some feedback again spoke to rental of spaces to external parties. Response to this feedback remains the same.
Space use reduction for cost saving	Suggestions for other cost savings included further reductions in space usage and further relinquishing of other assets. Identification of space and infrastructure that is not needed has been useful feedback that will allow us to reduce costs in future. I anticipate further discussion of space requirements and potential for relocations and reductions going forward.	Feedback received echoed that of the original proposal and the response remains the same.
Reduction in central unit staffing &/or expenditure for cost saving	There were suggestions that the central administration staffing and budgets should be decreased to save money and reduce the savings required of Colleges. CoS staff may not be aware that every unit in the University has been under fiscal constraint and most have already undergone restructuring processes with loss of staff in the last 12 months.	No further feedback was received.
Subsidisation of programmes with fewer enrolments	CoS already subsidises programmes with lower enrolments but with more than half our courses below a minimum sustainable threshold, there are more requiring subsidies than viable programmes that can subsidise them. We therefore need to make difficult decisions about which programmes we	No further feedback was received.

Feedback theme	Feedback Response, First Round of Consultation, Original Proposal	Feedback Response, Second Round of Consultation, Preliminary Decision
from larger programmes	can no longer afford to subsidise (e.g., the higher teaching margin requirements for SBE and SCMS when compared to SFAT and SNS, which recognises substantial differences in the costs of teaching delivery).	
Cross-campus course offerings as a way to reduce costs	Feedback spoke to different conceptualisations of cross-campus teaching and distance teaching and how each may relate to a Digital Plus policy. I need to be clear here that a central focus of the Digital Plus Policy is elimination of duplication of internal teaching unless Colleges can financially justify duplication. The CoS financial picture clearly does not justify duplication. In respect to distance teaching, there are areas where increasing distance offerings might be worthwhile, and some areas have made moves towards distance delivery of their entire specialisation or qualification (in addition to internal offerings). As per the NLEP, each offering needs to be able to meet minimum enrolment thresholds. Where experiential learning is important for a course content, distance offerings should provide contact workshops or field trips through which experiential learning is provided. Contrary to some feedback, it is not intended that all distance courses be delivered fully online. Contact workshops provide the mechanisms for a face-to-face experience as needed for science discipline teaching but should be supported by high-quality designed-for-distance online delivery. Some feedback has suggested that the University should make combined offerings that are both internal and distance. This is not possible because the TEC requires that the location in which the majority of teaching occurs must be reported to the Ministry of Education (Single Data Return manuals | Applications & Online Systems (education.govt.nz)).	Feedback centered on the application of the Digital Plus and NLEP Policies, specifically how we are already operating in the spirit of Digital Plus and how cross campus teaching efficiencies will leave significant shortfalls in capacity following the Final Decision. To reiterate, a central focus of the Digital Plus Policy is consolidation of internal delivery to a single campus unless delivery at more than one campus location can be financially justified. The CoS financial picture does not support continued duplication of assets, space, and other resources required for internal delivery on two campuses. This alignment with University strategy (Digital Plus) is not a reflection on staff expertise or collaborative teaching teams that exist within the college.

Alternative suggestions and proposals for specific programmes, specialisations and groups

Comments summary	Feedback Response, First Round of Consultation, Original Proposal	Feedback Response, Second Round of Consultation, Preliminary Decision
There were a number of submissions related to specific programmes, specialisations, groups, and campus location of disciplines. These included: • Supply Chain Management	I appreciate the thought and detailed analysis reflected in these various submissions. These suggestions and proposals have assisted my thinking and preliminary decisions. Many aspects of the alternative proposals have already been discussed in the general themes above. These include options to grow student	I again appreciate the thought and detail in the submissions received in response to the Preliminary Decision. These submissions have further supported the refinement of the detail within the Final Decision contained herein.

Comments summary	Feedback Response, First Round of Consultation, Original Proposal	Feedback Response, Second Round of Consultation, Preliminary Decision
• Sciences at Auckland • Engineering • Food Technology • Zoology and Ecology • Chemistry and Physics • Plant Science • Molecular Cell Biology • TEU Alternative Proposal • Manawatū Science Programmes • Microbiology Overall, these suggestions encompass options to • Grow student numbers • Increase marketing and improve understanding of the market (needs, interest, size) • Re-introduce BVSc Pre-Selection to Auckland • Commit to additional reductions in space on one or both campuses • Move programmes • Introduce new programmes or schools • Revise current programmes • Explore additional revenue generation opportunities	numbers, increase marketing, reintroduce BVSc Pre-Selection to Auckland, and commit to additional reductions in space. In regard to proposals for new and substantially revised current programmes, there were some good ideas but the University is not currently in a financial position to support loss-leading activity such as new qualifications which would take time to grow. These ideas will be useful for the future. A proposal to move Supply Chain Management to the Massey Business School has been passed on to MBS for consideration. The key factor I have had to consider relates to our inability to financially support two physical campuses in NZ delivering several of our qualifications 'face-to-face' (internal mode), in combination with the University's strategic direction (as enunciated in the Digital Plus Policy) to consolidate to a single campus when there are significant infrastructure and other resourcing requirements. I acknowledge the opportunity that will be lost in providing opportunities for Māori and Pacific students to study some science subjects on the University's Auckland campus (although I need to point out that the proposal only affects some of the College's operation on the Auckland campus and there will still be opportunities for students to study in the CoS on the Auckland campus in a number of areas). I also acknowledge that many students would prefer to study from Auckland where their support networks are based. I need to reiterate the severity and urgency of current financial issues that have led to these proposals. A number of the suggestions have been made in other proposals and responded to earlier in this Response to Feedback document. I thank those involved for the substantial work in producing the TEU alternative proposal. Overall, the approach presented in the TEU proposal does not enable SFAT and SNS to achieve the required financial outcomes, not does it address the University's strategic objectives in the context of Digital Plus. Whereas it might be possible to achieve the proposed approximately 50% reduction in space (UFA) over time (they will not occur immediately, as suggested in the proposal), the financial model presented has underestimated staffing costs (across academic	Many aspects of this feedback have been dealt with under other themes, for example marketing and engagement, growing student numbers, options for cost reductions, workload concerns, implied impacts of the changes etc. However, some feedback spoke to specific concerns raised by individual groups with respect to staffing, teaching, reporting line and school structure. One area highlighted was the formation of a new school and the alignment of disciplines within the school. As mentioned above, there was a recommendation that Food Technology move to SAE rather than form part of the new school. Concerns were expressed over loss of income and continued challenges in achieving financial sustainability. These issues are of concern and underpin the incipient need for the college to operate within its means whilst also striving to identify new opportunities for revenue growth. A revision of the TEU Alternative Proposal was also received in response to the Preliminary Decision. As was the case for the alternative proposal presented during the first consultation, the revision of the TEU Alternative Proposal was discussed in a meeting (and in other correspondence) with the TEU, with the intent to identify ways to achieve the required correction to the CoS's financial performance without impacting staff. I am grateful for the presentation and discussion of this alternative scenario and acknowledge the effort that was put into its development. Key areas of agreement between the TEU Alternative Proposal and the CoS Preliminary Decision included focus on reducing space (UFA) and equipment depreciation costs and ensuring that technical staffing levels are commensurate with workload needs, including requirements related to health and safety and compliance responsibilities. On the other hand, the TEU Alternative Proposal, which posits the retention of all current SFAT and SNS activities and staff on the Auckland and Manawatū campuses, does not provide financial justification

Comments summary	Feedback Response, First Round of Consultation, Original Proposal	Feedback Response, Second Round of Consultation, Preliminary Decision
	and technical staff positions) under a "no job losses" scenario by approximately $3.2M and the projected savings in other cost categories are also unlikely to be realised. For example, the alternative proposal targets a 40% reduction in depreciation expenditures (~$940K) whereas the College Office estimate of achievable savings on depreciation may only be 20% of the 2024 budget projection if all current staffing levels and activities on both the Auckland and Manawatū campuses were to be maintained. In addition, the TEU proposal suggests that there could be a $400K reduction in travel costs in 2024. However, the bulk of CoS expenditure on travel is related to research (i.e. from RM accounts) and realistically these represent required expenses for the conduct of College research activities. The College Office has also looked at scenarios to maintain a two-campus approach to SFAT and SNS activities including a 40% reduction in UFA and 20% reduction in depreciation costs. However, even with these reductions, there would need to be an approximately 40% decrease in academic and technical FTE to achieve the required financial outcomes and this would result in an unsafe/unreasonable increase (approximately 65% to 70%) in workload for remaining staff.	for maintaining the internal delivery of the same qualifications on two campuses and is not predicted to achieve the margin required for the college to correct its operating deficit (see 'Overview of Final Decision' on pages 6 and 7 for further comment).

Additional information

Additional information 1: Growth requirements for financial sustainability

These calculations are illustrative of the scale of growth that would be required to reverse the current financial operating deficit.

As an example, where:

- Required margin is 40%
- Student revenue is $ 21232.20/EFTS (this is the current domestic student fees plus SAC for V2 category courses (science undergraduate) for 1 full time student equivalent).
- Current operating deficit is $7.7M (i.e. the 2023 forecast shortfall in margin for SNS)

Required additional enrolments to cover operating deficits and return required margin is:

$7.7M / ((1-0.4) x $21232.20) = 603 EFTS

By way of comparison the required additional enrolments almost equates to the current EFTS in SNS over both campuses (654.6 EFTS) and nearly 4-fold those currently enrolled at the AKL campus in SNS programmes (158.7 EFTS).

We can see no way that this level of growth could be achieved within a 1-2 year timeframe, no matter how much was spent on marketing. But to reiterate, this growth would only relieve the financial position if it was not accompanied by any increase in expenditure (that is, no increase in staffing costs, consumable expenditure, or marketing), and should any additional expenditure be required (which seems likely) then an even higher growth in enrolments would be needed.

Additional information 2: Effect of offering BVSc Pre-Selection on the Auckland campus

Offerings of BVSc Pre-Selection were closed from 2020 and it has been suggested that these be reinstated to increase Auckland EFTS.

Historical data suggests that of the students enrolled in BVSc Pre-Selection at the Auckland campus who are unsuccessful in gaining entry to the BVSc, less than half are retained in programmes on the Auckland campus (Table 45). Two years after entering BVSc Pre-Selection only 6-30% of unsuccessful BVSc Pre-Selection students were still studying programmes on the Auckland campus and somewhat fewer were studying CoS programmes.

The scale of historical EFTS contribution from students enrolled in the BVSc Pre-Selection is shown in Table 46, Table 47, and Table 48. Altogether the BVSc Pre-Selection contributed 45-70 EFTS per year in Auckland campus programmes with 43-60 of those EFTS in CoS programmes, mostly BSc over a range of specialisations (Table 49). Of these, 28-32 are EFTS attributed to the BVSc Pre-Selection programme itself with the remainder from enrolments in other programmes before or after the student enrolled in BVSc Pre-Selection.

Based upon these historical data, BVSc Pre-Selection at Auckland does not contribute EFTS of the scale required for resolution of current operating deficits.

Table 45: Tracking of retention of individual students for the 2 years after enrolling in BVSc Pre-Selection where the Enrolment Programme Offering Location is given as Auckland. Students enrolled in BVSc Pre-Selection for each of the years 2016-2020 were tracked for the subsequent 2 years.

	Headcount				
	2016	2017	2018	2019	2020
Enrolled in BVSc Pre-Selection with AKL campus as Enrolment Programme Offering Location	60	61	78	77	73
Following year enrolment tracking:					
Enrolled in BVSc in following year	17	20	20	15	22
Enrolled in BVSc Pre-Selection again in AKL following year	1	7	2	2	1
Enrolled in BVSc Pre-Selection again in MTU following year	1	0	3	2	2
Enrolled at AKL in following year (any Massey programme)	21	18	19	15	8
Enrolled in AKL CoS programme in following year	18	17	16	10	8
Enrolled at Massey following year (any programme incl BVSc)	43	40	48	40	42
Not at Massey following year (any programme)	17	21	30	37	31
Second year following enrolment tracking:					
Enrolled in BVSc in 2nd year following	17	23	18	16	20
Enrolled in BVSc Pre-Selection again in AKL 2nd year following	0	0	1	0	0
Enrolled in BVSc Pre-Selection again in MTU 2nd year following	0	0	0	1	1
Enrolled at AKL in 2nd year following (any Massey programme)	13	11	14	9	3
Enrolled in AKL CoS programme in 2nd year following	11	11	11	5	3
Enrolled at Massey 2nd year following (any programme incl BVSc)	39	41	44	32	36
Not at Massey 2nd year following (any programme)	21	20	34	45	37
1-year retention at AKL of AKL non-selected BVSc Pre-Selection students	49%	44%	33%	24%	16%
2-year retention at AKL of AKL non-selected BVSc Pre-Selection students	30%	27%	24%	15%	6%
1-year retention at Massey of AKL non-selected BVSc Pre-Selection students	60%	49%	48%	40%	39%
2-year retention at Massey of AKL non-selected BVSc Pre-Selection students	51%	51%	41%	27%	27%

Table 46. Non-withdrawn EFTS in the BVSc Pre-Selection for students who had enrolled in BVSc Pre-Selection at Auckland during the years 2016-2020. EFTS are shown according to Enrolment Programme Offering Location (which is not necessarily the same as the course delivery location, as students enrolled in one location sometimes take courses from another location). EFTS on the Manawatū campus therefore represent students who changed their enrolment location subsequently to initial enrolment on the Auckland campus.

Non Withdrawn EFTS				Acader						
Enrolment Programme Of	Enrolment Progran	Delivery Localit	Student ID	Enrolment Spe	2016	2017	2018	2019	2020	2021	Grand Total
Auckland Campus	Bachelor of Veterinary Science Pre-Selection				28.000	27.250	30.375	32.625	28.875	1.000	148.125
Manawatu Campus	Bachelor of Veterinary Science Pre-Selection							1.000			1.000
Grand Total					28.000	27.250	30.375	33.625	28.875	1.000	149.125

Table 47. Non-withdrawn EFTS across any Massey programmes other than BVSc, for students who had enrolled in BVSc Pre-Selection at Auckland during the years 2016-2020. EFTS that may have been taken in qualifications prior to enrolling in BVSc Pre-Selection are not excluded. EFTS are shown according to Enrolment Programme Offering Location (which is not necessarily the same as the course delivery location, as students enrolled in one location sometimes take courses from another location).

Non Withdrawn EFTS					Acader								
Enrolment Programme O	Enrolment Progran	Delivery Localit	Student ID	Enrolment Spe	2016	2017	2018	2019	2020	2021	2022	2023	Grand Total
Auckland Campus					44.500	53.825	62.875	69.750	64.000	23.500	9.375	4.625	332.450
Manawatu Campus					1.125	12.500	18.875	23.000	26.500	22.500	16.750	10.625	131.875
Distance					0.625	1.875	1.375	2.250	2.000	1.375	2.375	1.500	13.375
Wellington Campus							0.750	1.000					1.750
Grand Total					46.250	68.200	83.875	96.000	92.500	47.375	28.500	16.750	479.450

Table 48. Non-withdrawn EFTS across CoS programmes other than BVSc, for students who had enrolled in BVSc Pre-Selection at Auckland during the years 2016-2020. EFTS that may have been taken in qualifications prior to enrolling in BVSc Pre-Selection are not excluded. EFTS are shown according to Enrolment Programme Offering Location (which is not necessarily the same as the course delivery location, as students enrolled in one location sometimes take courses from another location).

Non Withdrawn EFTS					Acader								
Enrolment Programme Of	Enrolment Program	Delivery Localit	Student ID	Enrolment Spe	2016	2017	2018	2019	2020	2021	2022	2023	Grand Total
Auckland Campus					42.500	50.500	56.750	59.750	55.875	17.625	7.375	4.625	295.000
Manawatu Campus					0.625	9.750	16.750	21.000	24.625	20.750	16.000	9.500	119.000
Distance					0.625	1.875	0.625				1.500	1.125	5.750
Grand Total					43.750	62.125	74.125	80.750	80.500	38.375	24.875	15.250	419.750

Table 49. Non-withdrawn EFTS across CoS BSc specialisation, for students who had enrolled in BVSc Pre-Selection at Auckland during the years 2016-2020. EFTS that may have been taken in qualifications prior to enrolling in BVSc Pre-Selection are not excluded. EFTS are shown according to Enrolment Programme Offering Location (which is not necessarily the same as the course delivery location, as students enrolled in one location sometimes take courses from another location).

Non Withdrawn EFTS					Acader								
Enrolment Programme O	Enrolment Programme Title	Enrolment Spe	Delivery Localit	Student ID	2016	2017	2018	2019	2020	2021	2022	2023	Grand Total
Auckland Campus	Bachelor of Science	Animal Science			2.125	0.500	0.250	0.250	1.000	0.250			4.375
Auckland Campus	Bachelor of Science	Biochemistry				0.625							0.625
Auckland Campus	Bachelor of Science	Biological Sciences			1.500	2.750	3.500	2.875	1.125	1.500			13.250
Auckland Campus	Bachelor of Science	Chemistry			1.500	3.375	3.000	3.375	2.500	1.000			14.750
Auckland Campus	Bachelor of Science	Ecology			1.125	3.375	3.625	1.875	1.875	0.750	0.125		12.750
Auckland Campus	Bachelor of Science	Ecology and Sustainability							0.500				0.500
Auckland Campus	Bachelor of Science	Genetics			3.250	4.375	5.875	5.250	4.250	1.625			24.625
Auckland Campus	Bachelor of Science	Integrative Biology							0.500	0.875	1.125		2.500
Auckland Campus	Bachelor of Science	Marine Biology							0.500				0.500
Auckland Campus	Bachelor of Science	Microbiology			1.000								1.000
Auckland Campus	Bachelor of Science	Molecular and Cellular Biology				0.250			0.500	1.000			1.750
Auckland Campus	Bachelor of Science	Molecular Cell Biology						0.250	0.750	0.750			1.750
Auckland Campus	Bachelor of Science	Zoology			2.625	5.500	9.125	8.375	9.625	4.875	1.875	0.750	42.750
Manawatu Campus	Bachelor of Science	Animal Science				3.875	5.750	5.500	4.125	0.250			19.500
Manawatu Campus	Bachelor of Science	Biochemistry					1.000	0.875	0.375	0.125			2.375
Manawatu Campus	Bachelor of Science	Biological Sciences					0.500						0.500
Manawatu Campus	Bachelor of Science	Chemistry					1.000	1.375	0.375	0.125			2.875
Manawatu Campus	Bachelor of Science	Ecology and Sustainability						0.500					0.500
Manawatu Campus	Bachelor of Science	Genetics				1.125	0.750	0.750	1.125	0.500			4.250
Manawatu Campus	Bachelor of Science	Microbiology						0.500					0.500
Manawatu Campus	Bachelor of Science	Molecular and Cellular Biology									1.000	0.250	1.250
Manawatu Campus	Bachelor of Science	Zoology				1.500	1.625	1.000	3.375	2.125	1.875	0.625	12.125
Distance	Bachelor of Science	Mathematics				0.500							0.500
Grand Total					10.000	22.750	29.500	29.375	29.500	15.125	5.875	1.625	143.750