

2023-2024 Naenae College Faculty Report

Department Vision:

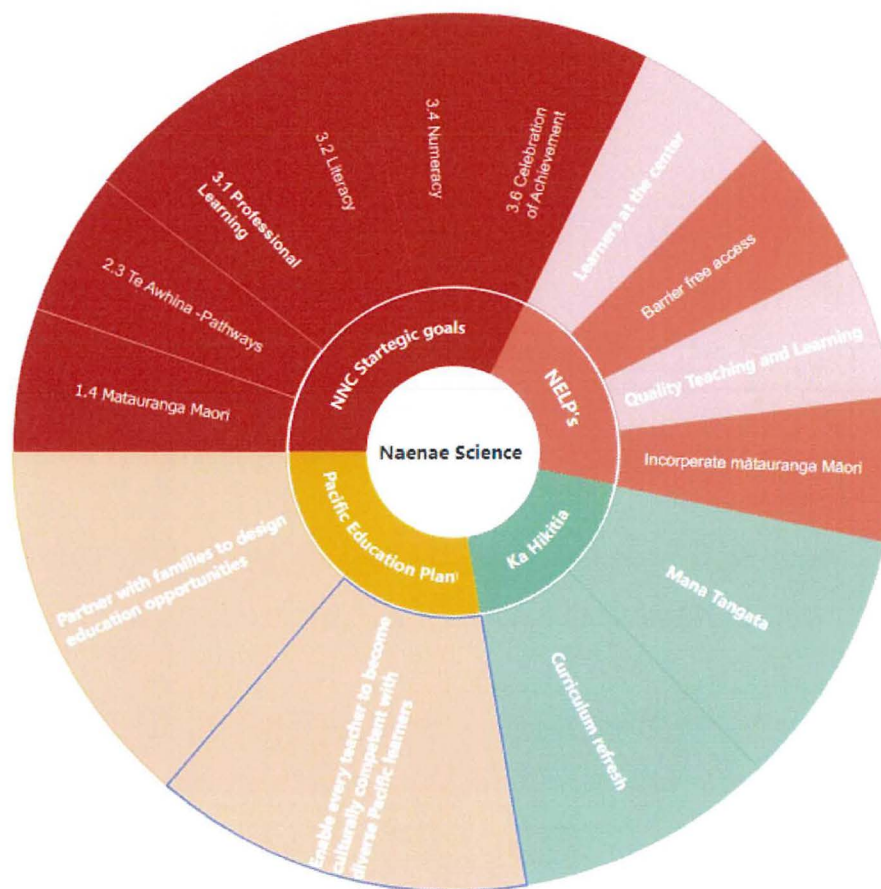
The Science faculty at Naenae College is committed to creating understanding of science as an activity, discipline and methodology that informs all of us. Akonga should experience Science as an enjoyable endeavour that relates to their world which enhances people's lives, and is integral to human progress.

This is achieved by developing the Science Capabilities as described by the National Curriculum. These capabilities are;

- Gather & interpret data.
- Use evidence.
- Critique evidence.
- Interpret representations.
- Engage with science.

The Science Faculty is committed to culturally responsive teaching which activates akonga's frames of reference, life experiences, and cultural values as a basis for building meaningful learning.

Mātauranga Māori forms part of our unique identity as Aotearoa New Zealand. Mātauranga Māori is a foundational part of our identity as a department and is included in our teaching alongside other knowledge systems.



Faculty of Science

2022 was again a year of transition at Naenae College with many new teachers arriving and others moving on to new challenges.

The department was focussed on preparing for the changes to NCEA Level 1 Standards and the continued development of Matauranga Maori content in the senior and junior curriculum. The faculty also continued to improve our junior curriculum in response to student voice and our reflections. Alongside this we continue to develop literacy and numeracy techniques to improve engagement and attainment.

Learning Areas: Science, Biology, Chemistry, Physics, Earth and Space Science.

HOF: Sarah Johnson

Name	Responsibility	Y9	Y10	Y11	Y12	Y13
Mr. [REDACTED]	HoF TiC Chemistry		[REDACTED], [REDACTED]		[REDACTED]	[REDACTED]
Ms. [REDACTED]		[REDACTED], [REDACTED]	[REDACTED]	[REDACTED]		[REDACTED]
Mr. [REDACTED]		[REDACTED]	[REDACTED]	[REDACTED]		
Mr. [REDACTED]	2ic TiC BIO300		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Ms. [REDACTED]	TiC PHY200	Maths				[REDACTED]
Mr. [REDACTED]	TiC Phy300	Maths				[REDACTED]
Mr. [REDACTED]	Te Awhina, Science Outreach.	[REDACTED]	[REDACTED], [REDACTED]	[REDACTED]	[REDACTED]	
Ms. [REDACTED]		[REDACTED]				

Faculty Goals 2023

Charter Goals 2023	Target	Result	Variance
1(b) More than 85% of our students leave with NCEA level 2, or move to further education or training.	<p>██████████ of our senior students pass the credits they attempt in their courses.</p> <p>██████████</p> <p>██████████</p> <p>██████████</p> <p>██████████</p> <p>██████████</p> <p>██████████</p>	<p>Pass rates 2023:</p> <p>credits gained Vs Credits attempted</p> <p>BIO300 ██████████ SCI200 ██████████</p> <p>CH300 ██████████ SCI101 ██████████</p> <p>PHY300 ██████████ SCI102 ██████████</p> <p>BIO200 ██████████ CHE200 ██████████</p> <p>PHY201 ██████████</p> <p>██████████</p> <p>██████████</p> <p>██████████</p> <p>██████████</p> <p>██████████</p>	<p>Senior subjects results held up well and improved in most areas despite the use of long term relievers to cover absences due to leave and recruitment.</p> <p>██████████</p> <p>See the comments in the report of junior achievement.</p> <p>██████████</p> <p>██████████</p>
2(b) Delivering highly engaging programmes, with quality review processes for continuous improvement.	<p>Thinking with Evidence assessment to inform; Te Awhina students</p> <p>Introduction of the Stile teaching program to our junior units.</p> <p>Review of junior units to establish overarching ethos of "kaitiaki" Adapt senior courses to suit student strengths</p>	<p>The assessment was not carried out with enough detail due to staff changes Group not identified due to incomplete TwE data</p> <p>STILE increases engagement and removes barriers to learning</p> <p>Ongoing with new tasks and assessments</p>	<p>██████████ responsibility for carrying out assessment and analysing data.</p> <p>Introduced STILE program to juniors</p> <p>██████████</p> <p>██████████</p>

			<p>Science knowledge from</p> <p>improving engagement</p> <p>attainment in year</p>
<p>3(b) Te whanau tahi values are evidenced through the culture and practices of the school. (Reference to LAR programme also)</p>	<p>Use of Te Whanau Tahi values in class. Establish ethos of kaitiaki Exposure to the Science Capabilities Encourage collaborative assessment Identify students at risk and implementing alternative pathways</p>	<ul style="list-style-type: none"> Improvement in student engagement. Increase in students involved in Science More collaboration with parents/caregivers 	<p>Will have students not engaged with Science</p> <p>NCEA Level</p> <p>and facilities represented a</p> <p>level 2 and 3 except for SCI200.</p>

I: Report on Senior Achievement

2023 programme pass rates reflections and key observations The pass rates of senior courses has increased in most areas, especially in BIO200 which went from 45% to 62%. All courses in traditional science disciplines continue to achieve good results in the Credits Achieved Vs Credits Attempted category. However many students do not attempt externals or pick and choose which standards to complete. This is particularly problematic in SCI200 where the high numbers of students and the opportunity to gain credits from off site providers leads to students not attempting internal standards.

- The new NCEA standards to be introduced in 2024 should allow us to engage students with their environment and local issues leading to higher attainment at NCEA Level 1.
- SCI200 results improved but continue to be a concern and achievement was well below expectations
- The incorporation of SCI200 students into CHE300 and BIO300 led to some pleasing results and several students attained UE accreditation in these classes.
- Pass rates were above national averages in BIO200, BIO300, CHE300, PHY200 and PHY300
- The engagement and attainment of SCI102 (74% up from 35%) was due to various factors including
 - New class teacher
 - Concentration on literacy skills with more scaffolding of tasks and less time on chromebooks.
 - Allowing students the option of external assessment in place of internal assessments.

Class reports key 2023 observations in courses and programmes from Faculty

- Teachers continue to respond to different learners and groups of learners by allowing flexibility in choice of what standards are included in courses based
- Courses listing some standards as electives allows students to challenge themselves.
- Some students avoid externals at the end of the year or performed at a lower standard than in derived grade exams. Student's voice is that they have "passed" NCEA 2 or 3 already so do not need to prepare for exams or complete internals.
- Students continue to need assistance developing their understanding of NCEA assessment vocabulary..

Operational issues/concerns/opportunities you would like to discuss with the principal

- LAR/Careers program to highlight entry requirements and scholarship awards reliant upon certain standards or endorsements at tertiary level. Reduce the self removal by students from standards and exams.
- Students who are not able to attend all the lessons (e.g. Trades and Services Academy) struggled to gain enough credits to pass their course.
 - Offer alternative paths to success in standards. Offer of all internal solutions in 200 and 300 subjects.
 - Develop new course based on Internal Achievement Standards using Sustainability standards at NCEA Level 3

Strategic issues/concerns/opportunities you would like to discuss with the Board

- NA

Summary

Successes

- Bio200 increase in results has been pleasing and is due to introduction of graphic organisers to aid literacy demands of the course.
- Earlier collaboration with parents is needed to ensure students reach their potential and we have whanau support.
- Overall students in the senior school are achieving at an excellent rate.
- Science department presence at homework club has led to increase in attendance by SCI101 students

- SCI101 and SCI102 have different difficulties but will both benefit from the new 4 standard NCEA Level 1 course recommended by the Review of Standards to be implemented in 2024.
- SCI200 students absorbed into Science 300 courses which was again managed well.

Issues/areas of concern

- **Continued failure to complete assessments in SCI200.**

Feedback on issues identified for attention in 2022 and actions taken in 2023

- Course compiled of internals created after discussion with whanau led to an improvement in engagement and students gaining UE in Science rather than traditional disciplines.
- Attendance is an issue compounded by ongoing issues from COVID
- **Areas of focus for 2024**
- Review of Standards at NCEA Level 1 will need considerable time to develop and implement. At present we have developed two new courses based on a mixture of standards from the 3 new areas of science in NCEA. One course will be based on the Nature of Science standards and will offer 10-15 credits. The second course will be based on all 3 areas and offer 10-20 credits including externally assessed standards.

External Moderation 2023

I have read & met with all staff regarding the PN's external moderation report

☒ **Yes** ☐ **No**

Scholarship 2023

☐ **We did not offer a scholarship programme in 2023.**

II: Report on Junior Achievement

Year 10 Level 5+ percentage	2019 results	2020 results	2021 results	2022 results	2023 results
[REDACTED]	21	40	30	50	34
[REDACTED]	12	31	18	38	17
[REDACTED]	19	24	20	46	32
[REDACTED]	25	68	36	50	65

Year 9 Level 4+ percentage	2019 results	2020 results	2021 results	2022 results	2023 results
[REDACTED]	47	45	49	48	49
[REDACTED]	24	42	48	39	35

- Results [REDACTED] of 60% at Level 5+ at year 10 and [REDACTED] have dropped back down to 50% last year.
- [REDACTED] results of Maori and Pasifika students have deteriorated considerably in year 10.
- [REDACTED] chose to do Science at NCEA Level 1 which shows students are engaged with Science and believe they can be successful.
- Thinking with Evidence test used to highlight students who have high ability in Science and diagnose gaps in class skills.
- Use of formative assessment before unit summative task to prepare students.

Reflection:

The [REDACTED] reduction in numbers of students achieving at the expected standard is due to many factors and we as a department have reviewed the curriculum highlighting what was successful and engaging and what needs to be improved. We have applied for PLD funds from the MoE and have engaged [REDACTED]

~~William from the University of Otago~~ to assist us with course redesign concentrating on Maturanga Maori inclusion and the gathering of student voice to guide us in this.

We continue to refine the STILE app to suit our students' needs and reflect the changes to our junior curriculum.

The appointment of ~~GNK as an advocate~~ of Te Awhina and science engagement will be crucial in improving engagement in science. Using TwE we can identify Maori and Pasifika students who have the skills to excel in Science and encourage them to attend outreach activities and science clubs.