

OTUMOETAI COLLEGE
NCEA PHYSICS LEVEL 2 – (L2PHYS) 2018

PHYSICS – L2PHYS					
<i>Course Relationship to the National Vocational Pathways</i>					
Construction & Infrastructure	Manufacturing & Technology	Primary Industries	Services Industries	Social & Community Services	Creative Industries
23	23	20	0	23	23
Course Entry	Minimum entry requirement is 12 credits in Level 1 Science (including Mechanics - at Merit / Excellence level advisable) or if given HOD approval.				
Course Overview	This course involves study of the key concepts of Physics to enable students to choose further study pathways in this specialist area. Physics study includes waves, mechanics, electricity and nuclear physics. This course is a prerequisite for Level 3 Physics and required for entry into many University and Polytechnic Course pathways.				
Assessment	This course will be assessed to a selection of Achievement Standards, both internal and external, with students having the opportunity to gain up to 23 credits at Level 2.				
Cost	Attending the Osborne Lecture, Waikato University [Optional]				\$25.00
	Attending Field Trip (Optional)				\$100.00
	Physics Course Book				\$30.00

Aim

1. To provide a context to develop the five key competencies identified in the New Zealand Curriculum - *thinking, using language, symbols, and texts, managing self, Relating to others, participating and contributing* – Students will learn to use these competencies to live, learn, work, and contribute as active members of communities.
2. To develop an understanding of the world, built on current physical theories;
3. To learn that Physics involves particular processes and ways of developing and organising knowledge and that these continue to evolve.
4. To use their current scientific knowledge and skills for problem solving and developing further knowledge.
5. To use scientific knowledge and skills to make informed decisions about the communication, application, and implications of Physics as these relate to individual lives and cultures and to the sustainability of the environment.
6. To prepare students for success in NCEA Level Two examinations and further study pathways and to allow them to develop skills in research and experimental techniques.

Description

This course involves study from the areas of Mechanics, Light & Waves, Nuclear Physics and Electromagnetism to provide students with a Physics background to understand applications of Physics, prepare for the workforce or to choose further study pathways.

Topics

Mechanics	Light & Waves
Nuclear Physics	Electromagnetism

Assessment Programme – Achievement Standards 2018

External

AS91170 v2 Physics 2.3	Demonstrate understanding of waves	4 credits
AS91171 v2 Physics 2.4	Demonstrate understanding of mechanics	6 credits
AS91173 v2 Physics 2.6	Demonstrate understanding of electricity and electromagnetism	6 credits

Internal

AS91168 v2 Physics 2.1	Carry out a practical physics investigation that leads to a non-linear mathematical relationship	4 credits
AS91172 v2 Physics 2.5	Demonstrate understanding of atomic and nuclear physics	3 credits

Assessment Opportunity

Students are expected to complete all assessment activities on or before the due date. A further assessment opportunity will **only** be offered for AS91172, and **not** AS91168, **Physics 2.1**. The final decision as to whether the class will be offered a further assessment opportunity lies with the Head of Faculty.

Derived Grades

These are only available for external standards and will depend on evidence available from practice examinations and other assessed work completed in class that is related to the same learning outcomes.

Work Deadlines & Lateness

All work must be handed in **at the beginning of the lesson on or before the due date**. Work **must be personally delivered to the teacher concerned** and must not be placed in the teacher's pigeonhole or left on the teacher's desk.

All in-class assessments must be completed on the set day unless **prior approval** has been requested of the individual teacher and approved by the Head of Department.

Assessment tasks handed in late without prior approval, will not necessarily be accepted for marking. The decision to accept or not accept a late assessment tasks will be made by the individual decision. Students who fail to submit work for assessment will be recorded as "not submitted" and can expect to receive a "not achieved" for that standard.

Students enrolled in all Science Department courses are entered in all standards being assessed as part of that course unless they negotiate to be removed from that particular standard **at the beginning of the year** and will require written parental permission to be removed from any standard.

How to Appeal a Grade

Appeals against grades awarded should be made following the procedure outlined in the school policy on appeals. Students wishing to appeal a grade must do so within 48 hours of receiving notification of their assessed grade.

Storage of Student Work

The Science Department will retain all student assessment material until it is no longer required by the NZQA for moderation purposes.

Authenticity

Except where specified in the assessment task, all work is to be the student's own. Assessment tasks completed outside of examination conditions will require a signed statement of authentication from students.

Marking and Moderation

Students' work will be marked by the class teacher following NCEA assessment schedules. For marking consistency, some assessment tasks or sections of tasks may be marked by the same teacher for all classes. Moderation will take place at the beginning and end of the marking to ensure consistency between classes.

Resources & Texts

Texts and resource material will only be loaned to students through the bar coded issue system and remain the property of the Science Department. Lost materials and texts will be replaced by the students responsible at his/ her own cost which must be cleared before further texts will be issued.

Finally Welcome to the Physics Department. The Physics staff are here to help you enjoy your learning and make the most of the learning opportunities provided.

YEAR PLANNER 2018 SUBJECT: L2 PHYSICS

TERM 1 102 half-days	Week 1 29 Jan – 2 Feb	Week 2 5 - 9 Feb	Week 3 12 - 16 Feb	Week 4 19 - 23 Feb	Week 5 26 Feb – 2 Mar	Week 6 5 – 9 Mar	Week 7 12 – 16 Mar	Week 8 19 - 23 Mar	Week 9 27 - 30 Mar	Week 10 2 – 6 Apr	Week 11 9 – 15 Apr	
Context	Anniversary Day (29) <small>Teacher-only-day Tues 30</small>	Waitangi Day (6)	MECHANICS: PHYSICS 2.4 AS91171 (including graphs, equations & significant figures etc.) PRACTICAL INVESTIGATION: PHYSICS 2.1 AS91168									
Assessment											SUMMER TOURNAMENT WEEK	Fri
TERM 2 98 half-days	Week 1 30 Apr - 4 May	Week 2 7 - 11 May	Week 3 14 - 18 May	Week 4 21 – 25 May	Week 5 28 May – 1 Jun	Week 6 4 - 8 June	Week 7 11 - 15 June	Week 8 18 - 22 June	Week 9 25 - 29 Jun	Week 10 2-6 July		
Context	ELECTROMAGNETISM: PHYSICS 2.6 AS91173							PHYSICS 2.6				
Assessment	PHYSICS 2.1 INTERNAL					School Holiday (4)	SENIOR EXAMS WEEK					
TERM 3 100 half-days	Week 1 23 - 27 July	Week 2 30 July - 3 Aug	Week 3 6 – 10 Aug	Week 4 13 - 17 Aug	Week 5 20 - 24 Aug	Week 6 27-31 Aug	Week 7 3 - 7 Sept	Week 8 10 - 14 Sept	Week 9 19 - 21 Sept	Week 10 24 - 28 Sept		
Context	LIGHT & WAVES: PHYSICS 2.3 AS91170						NUCLEAR: PHYSICS 2.5 AS91172		PHYSICS 2.5			
Assessment							WINTER TOURNAMENT WEEK	SENIOR EXAMS WEEK				
TERM 4 78 half-days	Week 1 15 - 19 Oct	Week 2 22 - 26 Oct	Week 3 29 Oct - 2 Nov	Week 4 5 – 9 Nov	Week 5 12 - 16 Nov	Week 6 19 - 23 Nov	Week 7 26 – 30 Nov	Week 8 3 – 7 Dec				
Context	NUCLEAR: PHYSICS 2.5 AS91172											
Assessment		Teacher Day (22)	PHYSICS 2.5 TEST	PHYSICS 2.5 RESIT	NCEA EXAMS START			TOD 8 Dec				