

Linwood College Course Booklet Mathematics 2015 NCEA LEVEL 3



"Well, here we go again....Did anyone here *not* eat his or her homework on the way to school?"

Name.....Mentor Group.....Maths Teacher.....

WELCOME TO THIS YEAR!

Congratulations on choosing to study Statistics and Modelling this year. To get the most out of the course you will need to attend classes, complete homework set, and **ask questions**. We hope that you will find this course not only useful for your future career, but also heaps of fun!

TEXTBOOK and HOMEWORK BOOK

Your textbook is Sigma Mathematics. Your homework will be directed by your teacher.

ESSENTIAL EQUIPMENT

Several **1E5 exercise books** this year (lined refill paper is not sufficient)

Pens, pencil, ruler

Graphic calculator - we recommend Casio fx-9750 or similar - *please note that this is an essential item! NZQA says you will be disadvantaged* if you do not have one.

GETTING YOUR BEST POSSIBLE RESULTS THIS YEAR...

IN THE CLASSROOM

Organise your notes and work carefully, so that you can find information and worked examples quickly. You may want to keep your notes and examples in one book, and do your daily exercises and homework in another book. **DO NOT** use refill pads for notes.

AT HOME

Each night, you should:

- Go over any **new information**, trying to **understand** it. Where appropriate, memorise it.
- Do any **set homework**, noting any difficulties or questions that you have, so that you can check them out with your teacher or a reliable friend.
- **Review earlier work** briefly - it helps you to retain it.
- Use any spare time to study for tests (don't leave until the last evening - there is too much to cover).

ASSESSMENTS

1. Take care over the **presentation** of any work that is to be marked. This includes layout as well as your clear and logical presentation of Mathematical ideas.
2. **Equipment** needed for an assessment.
 - A **ruler**. (Straight-line graphs drawn freehand are not acceptable! Be warned!)
 - A **graphic calculator in good working order**. You may not share in a test. Your teachers will not "loan" you a calculator if you have forgotten yours!!
 - **Pens** (blue for working - red, if you wish, for highlighting, etc., but NOT for working), a **pencil** for diagrams and graphs, an **eraser**.
3. Try all questions. Many Level Three problems rely on using formulae. Find an appropriate formula, write it down, see if you can find values for the variables and write them down, then use your calculator to get an answer and write it down. A correct method will often gain the extra criteria for Merit!
4. Anyone caught **cheating** will get 'not yet achieved' in that assessment event. Any other person involved will also get 'not yet achieved'. **Plagiarism** is a form of cheating and is never acceptable. Parents will be informed.
5. Use your **assignments** as a learning tool. Keep them, so that on the evening they are handed back you can work through the problems that you found difficult, and then again as you prepare for future tests on the topic. Talk to your teacher about difficulties. When you view any marked Tests, discuss them with your teacher. Use these points to guide your revision later for your exam. Well before the exam mark your 'I can do' sheets to indicate sub-topics that you still need to learn thoroughly, then revise later.
6. You are expected to sit all assessments to meet course requirements. If you are **absent** from any assessment, you **MUST** give an **absence note** to your Maths teacher. This is in **addition** to the note given to your tutor teacher.
7. If you have any pre-planned absence (Kokiri, sport, hospital, etc.), see your teacher at least a week earlier to help you prepare for the work to be covered during the time of absence.
8. Appeal procedures. If you wish to challenge a marking decision, see your class teacher and discuss your concern with the teacher. On the front of your paper, write down the question number and explain the point that you are querying. The teacher will take the paper, and refer the query to the marker of that question, who will make a decision consistent with the marking schedule and the marking of other papers, after consultation with the Head of Department. Your teacher will return the paper with the decision to you.

Summary of Results Mathematics

Achievement Standards Level 3

		Credits	E / I	Numeracy	Lit
A/S 91580	Investigate Time Series	4	I	Y	Y
A/S 91582	Make formal Inference	4	I	Y	Y
A/S 91581	Bivariate Data	4	I	Y	Y
A/S 91583	Conduct an experiment to investigate a situation	4	I	Y	Y
A/S 91587	Apply Systems of Simultaneous Equations in Solving Problems	2	I	Y	N
A/S 91586	Apply Probability Distributions in Solving Problems	4	E	Y	N

We hope you enjoy your study, and succeed in reaching your learning goals in Mathematics.

Have a great year!

Useful revision and help websites

- www.nzmaths.co.nz
- www.studyit.org.nz
- www.nztutor.co.nz
- www.nceax.co.nz
- www.ncearevision.co.nz
- [http.maths.nayland.school.nz](http://maths.nayland.school.nz)
- www.kahnacademy.org
- www.learncoach.co.nz

Linwood College MAS Level 3 Topic Order 2015

Term 1 Friday 30th January to Thursday 2nd April (36 hours from week 2 onwards)

TERM 1:

Content

Duration

A/S

Assessment

Simultaneous Equations	Equations with three unknown variables Methods of solution Systems with no unique solution Visual interpretation	12 hours	3.15 91587 2 credits	Internal Week 4
Inference	Exploratory data analysis Distribution shape and spread Boxplots and dotplots Sampling variability Bootstrapping Formal confidence interval	24 hours	3.10 91582 4 credits	Internal Week 10

Term 2 Monday 20th April to Friday 3rd July (44 teaching hours)

TERM 2:

Content

Duration

A/S

Assessment

Probability Distributions	Selecting distribution Binomial, Poisson, Normal Uniform & triangular distributions	24 Hours	3.14 91586 4 credits	External Mid-Year Exam Week 6
Statistical Experiment	randomisation to evaluate the strength of evidence statistical displays and comparing groups. experimental design	20 hours	3.11 91583 4 credits	Internal (end of topic test Week 11)
	Mid-year exam Week 6			

Term 3 Monday 20th July to Friday 25th September (40 teaching hours)

TERM 3: Content Duration A/S Assessment

Time Series	Graphing Smoothing Seasonal effects Forecasting Regression Seasonal adjustment	20 hours	3.8 91580 4 credits	Internal Week 5
Bivariate Data	Explanatory and response variables Correlation coefficient Correlation vs. causation Linear regression and equation Predictions (interpolation and extrapolation)	20 hours	3.9 91581 4 credits	Internal Week 10
	School exam Week 6 (Probability)			

Term 4 Monday 13th October to Thursday 31st October

TERM 4: Content Duration A/S Assessment

Revision	Revise probability or catch up Internals	14 hours		

Exams: Term 2 mid-year exam middle of June
Term 3 school exam middle of September

External NCEA Examinations of Standards 3.14