



New Zealand Certificate in Apiculture (Queen Bee Rearing) (Level 4)



Domestic fee: Free - normally \$2,999!

Due to the Government's Targeted Training and Apprenticeship Fund.

- > You will need a laptop/device to study this programme online which isn't covered by this fund.
- > You will still need to pay for any additional course-related costs (see more info in Additional Costs section).

International fee: To be confirmed

*Fees are approximate, subject to change and exchange rates

Location Online with weekend block courses in:

- > Cromwell, Central Otago (Bannockburn Road)
- > Dunedin (Momona Hall)
- > Gisborne (Eastwoodhill Arboretum)
- > Hamilton (Fraser High School)
- > New Plymouth, Taranaki (Coastal Taranaki School, Okato)
- > Ohoka, Rangiora (Mandeville Fire Station)
- > Orewa, North Auckland
- > Tauranga (Whataroa Road)
- > Wakefield, Nelson (Willowbank Heritage Centre)
- > Whangarei (Maromaku School)

*Pending location: Palmerston North

Duration 9 months part-time (September-May)

- Delivery**
- > Online learning - one evening class per fortnight (7.00pm-9.00pm)
 - > Practical weekend workshops once per month (9.00am-5.00pm, Sat and Sun)
 - > Followed by a practical 10 days later on a Tues evening (5.30pm-7.30pm)

Credits 60

Level 4

Start 24 August 2021

Apply By 31 August

Gain the skills and knowledge to rear queen bees.

This programme will enable you to rear queen bees for a commercial operation or to operate your own queen-rearing operation. Graduates will be able to work independently and could supervise others.

Apiculture is one of New Zealand's fastest growing industries and there is such high demand for this skill that it is listed on Immigration NZ's Immediate Skills Shortage List.

Graduates of this programme will be well-received by industry as it will benefit from having a supply of quality queen bees to ensure genetic diversification to establish and restock existing and new hives. In addition, the wider community and New Zealand as a whole will benefit from having a supply of queens bees to enable new or restocked hives to operate effectively, and contribute to the supply of bees for pollination which ensures the on-going supply of food sources.

Otago Polytechnic is the only tertiary provider of this industry-recognised training pathway in New Zealand.

Entry requirements

- > New Zealand Certificate in Apiculture (Level 3) or equivalent industry skills and knowledge.
- > You will be expected to complete an industry-approved American Foulbrood recognition and destruction course before you graduate from this programme.
- > If English is not your first language, you must provide:
 - > New Zealand University Entrance OR
 - > Overall Academic IELTS 5.5 with no individual band score lower than 5.0 (achieved in one test completed in the last two years), OR
 - > Acceptable alternative evidence of the required IELTS (see here for NZQA proficiency table and here for list of recognised proficiency tests).

If you need to improve your English Language skills, we offer a wide range of English programmes.

Recognition of prior learning

Students who have previously completed unit standards in Apiculture at Level 4 may be able to claim recognition of prior learning to exempt themselves from completing the equivalent learning on this programme provided these units appear on their student Record of Learning.

Course descriptions

1. Queen Bee Biology, Rearing and Breeding (15 credits)

This course will enable you to describe the biology, rearing and breeding of queen bees.

Indicative content

- > Life cycle and reproductive anatomy of the queen and drone
- > Role of a drone congregation area, and the role of pheromones in mating
- > Describe the three queen rearing impulses in terms of the way in which they are created in a beehive
- > Describe how genetic characteristics can be measured from characteristics of bees and within the hive
- > Describe how a bee breeding programme operates to improve breeding stock
- > Describe the role of instrumental insemination in bee breeding
- > Assess beehives from an apiary for breeder queens with desirable characteristics.

Learning outcomes

At the successful completion of this course, you will be able to:

1. Describe the life cycle, anatomy and reproduction processes of queen and drone bees.
2. Describe bee genetics in relation to bee breeding.
3. Explain the importance of bee breeding programmes for stock improvement.
4. Identify and assess characteristics for breeder queen bees for selection.

2. Beehive Management for Queen Bee Rearing (15 credits)

Learn how to prepare for and to rear queen bees.

Indicative content

- > Plan the timing and timeframes for completion of queen bee rearing activities to meet objectives, client needs, and size of operation
- > Manipulate cell builder beehive to receive grafted larvae
- > Graft larvae and assess the success rate of the grafting exercise, and monitor feed as required
- > Introduce queen bee cells into queen-less beehives or nucleus beehives
- > Describe the nutritional requirements of the queen bee and the hive
- > Carry out the marking and caging process for a queen bee.

Learning outcomes

At the successful completion of this course, learners will be able to:

1. Prepare a queen bee rearing management plan to meet seasonal requirements
2. Prepare queen bee rearing equipment to enable the grafting of queen bees
3. Graft queen bees
4. Describe beehive manipulations and the nutritional requirements of queen bees
5. Carry out bee hive manipulations for queen bee rearing.

3. Disease, Hive and Business Management (15 credits)

Learn how to implement a disease management plan for queen rearing, set up nucleus hives for mating queen bees and to develop a business strategy for queen rearing operation.

Indicative content

- > Transfer frames of capped brood, honey, pollen and bees into an empty nucleus box with a feeder
- > Introduce queen cell and monitor beehive until queen is mated
- > Conduct treatment of hives for varroa mite, including applying integrated pest management techniques
- > Assess beehives for ongoing disease presence and feed hives to maintain and improve hive health
- > Maintain disease compliance requirements
- > Research the current operation of the business
- > Develop an action plan for implementing a business strategy.

Learning outcomes

At the successful completion of this course, learners will be able to:

1. Select and prepare equipment to produce a nucleus beehive.
2. Produce a nucleus beehive and introduce a queen bee for mating.
3. Implement a pest and disease management plan for queen bee rearing.
4. Develop a business strategy for a queen bee rearing business.

Your workload

As a part-time student you should aim to undertake around 15 hours of study per week throughout the programme. This will include workshops, online learning and discussions, reading text books, doing assessments, practical work in your own time and the completion of an apiary diary.

Further study options

Graduates of this programme can further their learning with the New Zealand Certificate in Apiculture (Level 4) or other qualifications in small business management.

Additional costs

- > You will need to purchase your own Personal Protective Equipment (PPE) which includes a beekeeping suit (overalls and veil), gloves, smoker and hive tool (approximately \$250).
- > It is preferable that you wear steel-capped boots or gumboots.
- > You will need to have access to a computer and the internet. Course material will be made available online (through Moodle, our education online platform). Meetings, theory classes and assignments may be carried out online (via Microsoft Teams).

Please note: Because this programme is part-time, students are not eligible for student loans or allowances to cover course-related or living costs.

Disclaimer

While every effort is made to ensure that this sheet is accurate, Otago Polytechnic reserves the right to amend, alter or withdraw any of the contained information. The fees shown in this document are indicative ONLY. Both domestic and international fees are subject to change and are dependent on the development and implementation of Government policies. Please note that additional fees may from time to time be required for external examination, NZQA fees and/or additional material fees.

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