

# Student Devices for Naenae College

## Summary and Recommendations

| Year Level         | Platform   | Recommended Device                                                    | CPU                                       | RAM       | Storage         | Indicative Cost (NZD) | Recommendation                                           |
|--------------------|------------|-----------------------------------------------------------------------|-------------------------------------------|-----------|-----------------|-----------------------|----------------------------------------------------------|
| <b>Years 9-10</b>  | Chromebook | Education Chromebook (Lenovo 100e, Acer C734 or similar)              | Intel N4500 or better                     | 4GB       | 32GB eMMC       | \$450-\$550           | Lowest-cost option for web-based learning                |
| <b>Years 9-10</b>  | Windows    | Entry business-grade laptop (ThinkPad, TravelMate, Latitude, ProBook) | Intel Core i5 / AMD Ryzen 5               | 16GB      | 256GB-512GB SSD | \$1,100-\$1,500       | Best balance of performance and longevity                |
| <b>Years 9-10</b>  | Apple      | MacBook Air 13"                                                       | Apple M4                                  | 16GB      | 256GB SSD       | \$1,900-\$2,300       | Premium option with excellent battery life               |
| <b>Years 11-13</b> | Windows    | Business/performance laptop                                           | Intel Core Ultra 5 or 7 / Ryzen AI 5 or 7 | 16GB-32GB | 512GB SSD       | \$1,500-\$2,200       | Recommended for senior students and tertiary preparation |
| <b>Years 11-13</b> | Apple      | MacBook Air 15" or MacBook Pro 14"                                    | Apple M4                                  | 16GB      | 512GB SSD       | \$2,400-\$3,200       | Ideal for creative, media and university pathways        |

## Recommended Specifications by Year Level

| Year Level                          | Chromebook                                                  | Windows                                             | Apple                                               |
|-------------------------------------|-------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|
| <b>Years 9-10</b>                   | 4GB RAM, 32GB Storage                                       | Intel Core i5, 16GB RAM, 256GB SSD                  | MacBook Air 13", 16GB, 256GB SSD                    |
| <b>Years 11-13</b>                  | Generally not recommended as a sole device for senior study | Intel Core Ultra 5/7, 16GB RAM, 512GB SSD           | MacBook Air 15" or MacBook Pro 14", 16GB, 512GB SSD |
| <b>Creative Arts, Media, Design</b> | Not recommended                                             | Core Ultra 7, 32GB RAM, 1TB SSD, dedicated graphics | MacBook Pro 14", 24GB+ memory, 512GB-1TB SSD        |

## Overall Recommendation

| Student Type                                                      | Recommended Device                                            |
|-------------------------------------------------------------------|---------------------------------------------------------------|
| <b>Budget-conscious Years 9-10 student</b>                        | Chromebook (4GB RAM / 32GB Storage)                           |
| <b>Most Years 9-10 students</b>                                   | Windows laptop (16GB RAM / 256GB SSD)                         |
| <b>Most Years 11-13 students</b>                                  | Windows laptop (16GB RAM / 512GB SSD)                         |
| <b>Students committed to the Apple ecosystem</b>                  | MacBook Air 13" (Years 9-10) or MacBook Air 15" (Years 11-13) |
| <b>Photography, Design, Media, Film or Creative Arts students</b> | MacBook Pro 14" or high-spec Windows laptop with 32GB RAM     |

**Practical advice for schools:** Chromebooks remain an excellent low-cost option where learning is primarily web-based. However, for students likely to continue into senior subjects, vocational pathways, university study, creative technologies, coding, media, design, or AI-powered applications, a **16GB Windows laptop or MacBook Air** will usually provide a significantly longer useful life and greater flexibility.

## Supporting Notes for Windows 11 Laptops

For most business, education and professional use in 2026, I would no longer regard **8GB RAM as the optimum specification**. It will run Windows 11, but it is now the bare minimum I would recommend purchasing for a new laptop.

Microsoft's minimum requirement for Windows 11 is only **4GB RAM**, but that is simply the minimum needed to install and run the operating system, not the amount required for a good user experience.

### My recommended Windows 11 laptop specification (2026)

#### *Good (minimum I'd buy today)*

- Intel Core i5 or AMD Ryzen 5
- 16GB RAM
- 512GB SSD
- TPM 2.0
- Wi-Fi 6 or Wi-Fi 6E
- Full HD (1920 × 1080) display
- USB-C charging

#### *Optimum business/education laptop*

- Intel Core Ultra 5/7 or AMD Ryzen AI 5/7
- 16GB-32GB RAM
- 512GB-1TB SSD
- Wi-Fi 6E or Wi-Fi 7
- 14" IPS display (1920 × 1200 or better)
- USB-C / Thunderbolt ports
- 1080p webcam
- Business-grade warranty (3-year onsite)

### *Future-proof for 5+ years*

- Intel Core Ultra or AMD Ryzen AI processor
- 32GB RAM
- 1TB SSD
- Dedicated AI/NPU support
- Premium business chassis (ThinkPad, Latitude, EliteBook, TravelMate)

## Why not Windows 11 with 8GB RAM

### Pros

#### *Lower cost*

An 8GB model is usually NZ\$100-\$300 cheaper than the equivalent 16GB model.

#### *Fine for light workloads*

Suitable for:

- Email
- Web browsing with a few tabs
- Word
- Excel
- PowerPoint
- Basic Teams meetings

#### *Lower power consumption*

A small improvement in battery life may be achieved compared with larger memory configurations.

### Adequate for student devices

Many schools successfully deploy 8GB Windows devices for classroom use where workloads are modest.

Created using Microsoft Copilot – with human review. Enterprise data protection in place.

## Cons

### *Windows 11 uses more memory than previous versions*

A fresh Windows 11 installation commonly consumes several gigabytes before applications are opened. Once Teams, Edge, Outlook and security software are running, available memory can become limited.

### *Teams and web browsers are memory hungry*

Modern workloads often include:

- Teams
- Outlook
- Edge or Chrome
- Multiple browser tabs
- OneDrive sync
- PDF software

These can easily consume most of an 8GB system's available RAM.

### *More disk swapping*

When RAM fills up, Windows starts using the SSD as "virtual memory".

Symptoms:

- Slower performance
- Delays when switching applications
- Browser tabs reloading
- Reduced battery life

### *Shorter useful lifespan*

An 8GB laptop purchased today may feel constrained in 2-3 years as applications continue increasing memory requirements.

### *Poor for AI features*

Many of the newer Windows AI features and Copilot+ capabilities are designed around more powerful hardware. Copilot+ PCs require at least **16GB RAM**.

### *Not ideal for:*

- Large Excel workbooks
- Power BI
- Multiple Teams meetings
- Video editing
- Photoshop
- CAD
- Running virtual machines
- Heavy multitasking

## Supporting Notes for Apple laptops

### Best Overall Choice

#### MacBook Air 13-inch or 15-inch (Apple Silicon)

#### Recommended minimum specification:

- Apple Silicon processor (M-series)
- **16GB unified memory**
- **512GB SSD storage**
- Wi-Fi 6 or better
- Battery life of at least a full school day (all current MacBook Air models exceed this)

This specification provides sufficient performance for:

- Google Workspace
- Microsoft 365
- Research and web applications
- Online assessments
- Coding and digital technologies
- Media-rich learning
- University preparation
- AI-powered tools that are becoming common in schools

## By Year Level

### Years 9-10

#### **Recommended:**

- MacBook Air 13"
- 16GB memory
- 256GB SSD minimum
- 512GB preferred

### Years 11-13

#### **Recommended:**

- MacBook Air 15"
- 16GB memory
- 512GB SSD

Senior students accumulate significantly more files and are more likely to:

- Use creative applications
- Study digital technologies
- Conduct research projects
- Work with video and multimedia
- Continue using the device after leaving school

For these reasons, 512GB storage becomes worthwhile.

### For Students Taking Specialist Subjects

- Digital Technologies
- Media Studies
- Design
- Photography
- Music Production
- Film

Consider:

#### **MacBook Pro 14"**

- 24GB-32GB memory
- 512GB-1TB SSD

## What I Would Not Recommend in 2026

### *8GB Memory*

While entry-level Apple devices (Neos) may still be sold with 8GB memory, I would not recommend them for a student expected to keep a device through Years 9-13. They would be okay for Years 9-11, but a Chromebook would be a cheaper option for the same outcomes.

Reasons:

- Increasing use of AI tools
- Growing browser memory demands
- More simultaneous applications
- Longer expected device lifespan

### *128GB Storage*

This fills surprisingly quickly once students begin storing:

- Videos
- Media projects
- Photos
- Creative work
- Offline resources

Most NZ schools are moving towards **256GB minimum**, with **512GB preferred**.