# TAS Stage 4 – Careers in technology



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**Anticipated resource review date**: Resources are reviewed every 12 months for currency and relevancy as part of the Career and Workplace Learning team’s evaluation plan.

**Alignment to School Excellence Framework:**

* Learning domain:Curriculum; Teaching and Learning Programs
* Teaching domain:Effective Classroom Practice, Lesson Planning
* Learning domain: Assessment: Formative Assessment

**Alignment to** [**Australian Professional Standards for Teachers**](https://educationstandards.nsw.edu.au/wps/portal/nesa/teacher-accreditation/meeting-requirements/the-standards)

* Standard 2.1.2 Apply knowledge of the content and teaching strategies of the teaching area to develop engaging teaching activities
* Standard 2.6.2 Use effective teaching strategies to integrate ICT into learning and teaching programs to make selected content relevant and meaningful.

**Consultation**: Career Learning in Curriculum (CLiC) documents have been written in consultation with curriculum writers from various key learning areas; Curriculum Secondary Learners and Career and Workplace Learning. This resource has been trialled in rural and regional schools.

## Rationale and background information

Learning for life beyond school is supported when subjects are delivered to students in a way that they can understand how the content is relevant to career pathways and work settings. NESA syllabuses identify work and enterprise as important learning across the curriculum content for all students.

Career learning resources have been developed to enrich existing teaching and learning programs to facilitate effective career education for students, supporting students to link classroom learning to workplace applications, including developing career management skills.

Career learning activities embedded within existing curriculum have been aligned to the themes from the [K-12 Career Learning Framework](https://education.nsw.gov.au/teaching-and-learning/curriculum/career-learning-and-vet/career-learning) and the [Australian Blueprint for Career Development](https://www.yourcareer.gov.au/resources/australian-blueprint-for-career-development) (ABCD):

Activities may relate to one or more of the themes:

* Identity – building and maintaining a positive self-concept, responding to change, and developing capabilities.
* Experience – discover, investigate, and consider opportunities in lifelong learning and work exploration.
* Empower – learning to self-manage, engage in career decision making and developing skills and capabilities to make informed decisions.

### Career competencies

This resource supports students develop career management skills relating to:

| **Career Management Skills** | **Australian Blueprint for Career Development Career management competencies** |
| --- | --- |
| Theme: Experience  Locate and use career information | Learning area B: Learning and work exploration.  Career management competency: 6. Locate and use career information effectively. Understand how to locate and use career information.  Phase: Locate and evaluate a range of career information sources relevant to career aspirations.  Performance indicator: Create a list of career information sources and demonstrate navigation. |

[Australian Blueprint for Career Development](https://www.yourcareer.gov.au/resources/australian-blueprint-for-career-development) © Commonwealth of Australia 2022

## Syllabus outcomes

**TE4-10TS** explains how people in technology related professions contribute to society now and into the future

[Technology Mandatory Years 7–8 Syllabus](https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/tas/technology-mandatory-7-8-new-syllabus) © NSW Education Standards Authority (NESA) for and on behalf of the Crown in right of the State of New South Wales (2017).

## Learning experiences

The syllabus provides opportunities for types of thinking to be incorporated into the knowledge, understanding and skills of the syllabus. This includes computational thinking, design thinking and systems thinking.

**Students will:**

* Identify career opportunities and requirements in their specified field
* share their knowledge of technology related careers
* explore how technology related professions contribute to industry and society now and into the future.

**Suggested duration:** 2 x 60 minutes

**Audience:** To participate in this activity, it is assumed that students have a basic understanding of the content structure in one of the following Stage 4 Technology Mandatory courses:

* Digital technologies
* Agriculture and food technologies
* Engineered systems
* Material technologies

### Resources required.

To complete these activities students need:

* Student activity sheets (below)
* access to a computer and internet access including [digital learning selector](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Browser?cache_id=7e4e4), [myfuture](https://myfuture.edu.au/home), [joboutlook](https://joboutlook.gov.au/) and [the good universities guide](https://www.gooduniversitiesguide.com.au/careers-guide) websites
* student workbooks.

### Activity 1 – Know, want, learn, how

The skills and capabilities developed by students through the study of a variety of technology contexts can be applied to further education, and career opportunities in design, technology, engineering, science, mathematics, and related fields. In this activity students are asked to think about how technology is used in a range of jobs and careers. As a class discuss the statement:

**“**Everyone needs to learn skills in technology and apply them because they are used in all careers.**”**

Discussion can be supported through inquiring questions, for example:

* Why does everyone need to learn skills in technology?
* Why has this changed?
* Why are they used in all careers?
* Why do you have to keep learning new skills in technology?
* Why do you have to be able to apply the technological skills you have learnt?

Following class discussion, ask students to identify which field of technology they most enjoy. For example, timber, metals, textiles, computing, food technology. Students use activity sheet 1 and complete the first two columns, explaining **what they already know** about the technology skills and careers relating to TAS and **what they want to learn** about them.

**Teacher notes:** The Know, want, learn, how (KWLH) table is a critical thinking tool that starts students thinking about what they know about a topic and for this activity it asks them to think about the jobs related to the content strands of the Stage 4 syllabus. It then allows students to think about what they want to know, what they have learned at the end of an activity or unit of work and how they can learn more. This is a note taking devise that guides students through the process to activate prior knowledge, develop a purpose for learning and summarising.

### Activity 2 – Jobs in industry sectors

Identify five jobs that are related to one of the following industries:

* Digital technology and data
* Agriculture and food
* Engineering
* Materials and manufacturing

Record the jobs and careers on activity sheet 2. This can also be completed using a ‘brainstorming’ activity from the [digital learning selector](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Browser?cache_id=7e4e4). Students can combine their list of jobs or students can be placed into groups to add jobs to one of the following industry groups. The [myfuture](https://myfuture.edu.au/home) website will provide more information in the Career Bullseye section.

**Teacher notes**: Encourage students to think critically and creatively about jobs. For example, data analytics and algorithms are used to profile social media and internet searches to market products. Drone technologies and drone operators are needed in farming, information management and records managers are emerging rolls in the health sector.

### Activity 3 – Research

Using the list of jobs that have been created by the class, students select one that is of particular interest. This can be completed using activity sheet 3 or an activity such as the affinity diagram from the [digital learning selector](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Browser?order=alphabetic&clearCache=c76e44b7-60fb-adf-113a-24e73c78f28a). Students will research this job and create a report with the following information:

* Job title
* Training required
* Personal requirements
* Outline of duties
* Average income
* Students can share their findings with the class.

### Activity 4 – Evaluate

Use an activity from the [digital learning selector](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Browser?cache_id=63754) such as an affinity diagram to group facts. Extend student skills in digital literacy and ask them to embed a video or weblink.

### Conclusion

The teacher reviews the lesson’s concepts to ensure student’s understanding through questioning, discussion or [exit slips](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Card/543).

### Differentiation

This resource can be adapted to support a diverse range of students. The affinity diagram or similar tool can be used to organise ideas and research into meaningful categories or themes. Using the [digital learning selector](https://app.education.nsw.gov.au/digital-learning-selector/LearningActivity/Browser?cache_id=63754), teachers can select a tool that meets the need of their students.

For support with differentiation of this lesson, visit [Career Learning and Vocational Education](https://education.nsw.gov.au/teaching-and-learning/curriculum/career-learning-and-vet/curriculum-support/k-12-career-learning-framework).

### Extension activities

Discuss the following statements and compose a written response for one:

* How have advancing technologies increased efficiency of time or materials in the production of models or products?
* How have technologies evolved locally, regionally, or globally and how are competing factors are prioritised in the development of design solutions (Engineered Systems)?

## Evidence base

Evidence-based refers to researching practices to apply proof, reliability, and ethical standards to ensure quality. Evidence-based provides credible knowledge that has been created and tested through rigorous methods.

In addition to being designed in response to the outcomes and achievement standards of the NSW syllabus, a wide range of literature and resources highlighting the importance of career learning from an early age were considered from both a local and international sources. These include research papers from the OECD (Career Ready, Mann et. al), UK (What Works, Hughes et. al) and Career Education: every teacher has a role (myfuture, Education Services Australia).

For the complete list of academic research that informed the development of Career Learning in Curriculum resources, visit the [K-12 Career Learning Framework](https://education.nsw.gov.au/teaching-and-learning/curriculum/career-learning-and-vet/curriculum-support/k-12-career-learning-framework) website.

## Activity sheets

The following pages contain worksheets for students to use. They can be printed separately as required.

The remainder of this page is intentionally blank.

### Activity sheet 1 – Critical and creative thinking using a KWLH table

In this activity I am learning about: Careers relating to Technological and Applied Studies

1. Complete the first two columns in the chart below before you attempt Activity 2 and 3.
2. Explain what you already know about the technology skills and careers relating to TAS and what you want to learn about them.
3. After completing all activities add your thoughts in the remaining two columns.
4. Explain what you learned and how you could learn more about this topic.

|  |  |  |  |
| --- | --- | --- | --- |
| What do I KNOW | What do I WANT to learn | What did I LEARN | HOW can I learn more |
|  |  |  |  |

### Activity sheet 2 – Careers relating to technological and applied studies

Use the internet to search for lists of jobs or careers in the following fields that relate to TAS. Websites including [myfuture](https://myfuture.edu.au/occupations/details/2621--database-and-systems-administrators-and-ict-security-specialists) and [joboutlook](https://joboutlook.gov.au/) will support you in your research.

|  |  |
| --- | --- |
| Employment field | Response |
| Digital technology and data |  |
| Agriculture and food |  |
| Engineering |  |
| Materials and manufacturing |  |

### Activity sheet 3 – Career research

Select one of the jobs or careers from the lists that particularly interests you. Research how you can become a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (use [the good universities guide](https://www.gooduniversitiesguide.com.au/careers-guide) as a starting point).

|  |  |
| --- | --- |
| Criteria | Response |
| Job title |  |
| Training required |  |
| Personal requirements |  |
| Outline of duties |  |
| Average income |  |

## Feedback

The Career and Workplace Learning team would appreciate you taking the time to complete this short feedback form. Please use the [Career Programs feedback form](https://forms.office.com/Pages/ResponsePage.aspx?id=muagBYpBwUecJZOHJhv5kdR9XgNzBt1AheGePVM3QdNUNzE1OEYwRzhEOVZJNkNHTFVTWDdGMVhQNyQlQCN0PWcu) or QR code below and select CLiC to provide an evaluation or feedback on this resource.

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