Learning Plan

This task helps connect you with the unit, its assessment, and the planning necessary to achieve different grade outcomes.

Learning Goals

To complete this task, you need to demonstrate that you:

- Have read and understood how the unit works.
- Can reflect on your current knowledge and your goals in the unit.

Focus

- **Professional Characteristics:** Reflective practice is an important part of becoming a computing professional. With an ever-changing field, you need to develop lifelong learning skills that allow you to stay on top of these developments. Use this task to start focusing on your reflective practice skills. These skills underpin all tasks in the unit, and reflective practice will help you continually improve. This is an important hallmark of a computing professional.

Summary – TL; DR

- You determine which grade you aim to achieve.

- You need to complete different tasks, based on the grade you are targeting.

- Programming will be important for everyone studying any area of information technology.

- A pass grade will demonstrate you have a foundational understanding of programming, but you may find that you'll have gaps in your knowledge when working on future units.

- Distinction and high distinction grades will require you to plan, engage with your tutor, and work ahead of task due dates in OnTrack.

- Your tutor is here to help you learn and will provide feedback on your tasks if you submit these on time.

- Students who attend classes regularly and engage their tutors consistently find the unit easier to complete and receive higher grades.

- You must sit and pass the tests to pass the unit – this needs to be on campus for campus-enrolled (course) students.

- To succeed in SIT102, we strongly encourage the following:
  - Attend classes: those who attend regularly are much more likely to find the unit easier to complete.
  - Be engaged: ask questions on the MS Teams channel, be known to your tutors, check CloudDeakin and OnTrack regularly.
  - Stay up to date: plan and manage your tasks.

- You can skip to the Your Task section for the task submission details.

Task in Detail

Programming is central to all studies in computing. It is foundational to computer and data science, artificial intelligence, cyber security, software engineering, and information technology. Through this unit, you will learn how computers work and how to get them to do anything you want. Your success here will ensure that you will have the knowledge and skills to succeed throughout your future studies. This makes introductory programming the most important building block in any computing degree, and a valuable skill for any profession.

In this unit you can determine which grade you are aiming to achieve, and we will work with you to help you achieve that grade. The following sections go through the meaning of each grade, and the task and feedback timelines, to help you make an informed decision.

Focus and Unit Learning Goals

To complete this unit, you need to demonstrate that you can do the following:

- ULO 1: Evaluate procedural program code for correct use of coding conventions and use code tracing and debugging techniques to identify and correct issues.

- ULO 2: Design, develop, and test procedural programs using specified programming languages to achieve defined program goals, including effective use of data types, programming statements, control flow structures and modularisation techniques.

- ULO 3: Explain the principles of structured procedural programming, using appropriate terminology and by relating these principles to programming syntax and structures developed.

- ULO 4: Analyse, critique the quality, and reflect upon a portfolio of artefacts to justify the achievements of specified objectives and goals with evidence.

Through the unit you will create a portfolio of tasks that shows you have these capabilities and reflect on your achievement of these at the end of the unit.

To help guide you through these tasks, we have the following focuses. These highlight important aspects of each task, directing your attention to the important areas to focus on.

- **Programming Concepts**: relate to the structured and procedural programming concepts to pay attention to during the task.
- **Programming Processes**: indicate the practices to focus on, the way in which we engage with the concepts to create solutions.
- **Coding:** Directs your attention to the syntax and language rules, coding conventions and tools to pay attention to.
- **Professional Characteristics**: Highlight the personal characteristics that are linked with success in computing careers. Aim to develop these as you progress through the tasks.
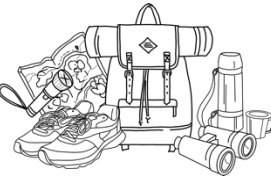
Make sure to pay attention to these focuses and use them to ensure you get the most out of each task. The start of each task lists the relevant focuses and describes what to focus on as you work though demonstrating the learning goals.

> **Tip:**
>
> The focuses in each task aim help you notice important aspects that may not be explicitly mentioned in the material. These will help you see the important learning that underpins the task and learning you are achieving. Paying attention to these should help you achieve deeper learning outcomes that will set you up for ongoing success in computing.

Meaning of grades

Different grades require you to demonstrate different skills. The following illustrations outline the main characteristics for each grade. The visualisation uses a hiking metaphor, showing how well each grade will prepare you for future activities.

Pass	Credit	Distinction	High Distinction
Can work through structured resources to iteratively develop understanding. Has a foundational understanding of programming.	Can effectively utilise feedback to develop their understanding and pays attention to detail to ensure solutions work as expected. Has a good understanding of programming, and how to program.	Can work with little direction, with the persistence and adaptability needed to overcome challenges in building larger solutions. Has the capability to design and build programs independently.	Can work in a proactive, self-directed manner, and demonstrates a degree of passion or inventiveness in their work. Has the capability to conceptualise, design and build elegant and sophisticated programs.

When you complete all the tasks up to your target grade, you know that you have demonstrated the required skills and will receive the indicated grade at the end of the unit. You can change your target grade at any point, and the tasks will be automatically updated on OnTrack to show what you need to demonstrate.

The meaning of each grade is described below, it relates to the type of tasks you will be working on at that grade level. It also indicates how you should approach the unit and manage your time if targeting that grade.

<u>Pass</u>: Has a foundational understanding of programming

Through the **pass tasks** you will develop an understanding of the basic programming tools and how to apply them to simple problems.

If you aim for a pass, you will be demonstrating that you can apply these tools and concepts to create small programs but **not** that you are able to create more complex programs yourself or fully understand how programs work.

If you choose to target a pass grade, you will have more time to spend on the pass tasks as you will not have to complete other tasks. However, achieving only a pass level might make it challenging to go on to further studies in computing, as you may need to spend more time studying programming concepts to make the most of future units. Building a solid foundation here will be important for you.

Make sure you let your tutor know why you have chosen to target this grade. If the reason is that you believe you will struggle with this unit, they will support your learning as best they can to make sure you get over the line and hopefully, even change your target and achieve a credit or higher.

**<u>Credit</u>: Has a good understanding of programming, and how to program**

The **credit tasks** will ask you to think deeply about the concepts learned and how they relate to each other, so you really understand how things work. This will give you the opportunity to put into practice the concepts learned and ensure that you really know how they work together.

If you aim for credit, you will be demonstrating that you understand how programs work, and that you can draw the necessary parts together to build programs with some guidance.

If you choose to target a credit grade, you will have more time to spend on the pass and credit tasks as you will not have to complete higher-grade tasks. Make sure you let your tutor know why you have chosen to target this grade so they can provide you with the support you need.

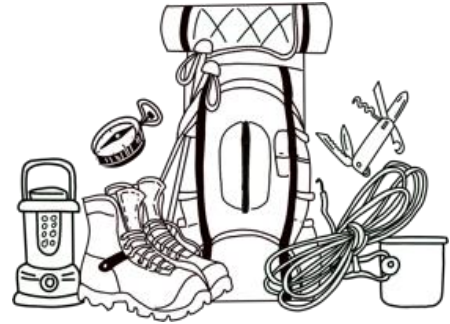**<u>Distinction</u>: Has the capability to create programs independently**
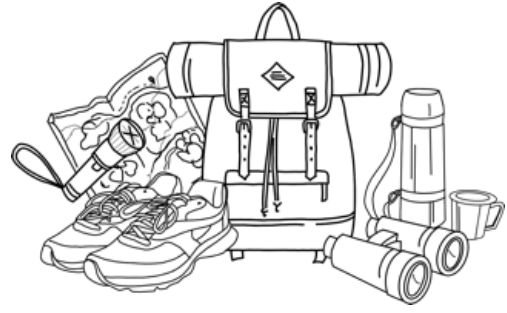
The **distinction tasks** will ask you to create larger programs and give you the freedom to determine what these programs do. You will scope, design, code, and test these programs, working independently to create programs to meet specified requirements. You will be on the path to High Distinction, where this same program will need to meet additional requirements.

If you aim for a distinction, you will be demonstrating that you understand how programs work and can independently design and develop a program.

If you choose to target a distinction grade, you will have less time to spend on the pass and credit tasks as you will need that learning to tackle the distinction tasks. Make sure you keep track of your time and plan ahead by preparing a timeline for yourself to ensure you can complete all the required tasks. Let your tutor know why you have chosen to target this grade so they can provide you with the support you need.

High distinction: Has the capability to build elegant and sophisticated programs.

The **high-distinction tasks** will ask you to demonstrate high levels of programming competency in your custom program, and your ability to incorporate concepts and tools you have learnt independently. The instructions are open ended so you have lots of freedom on what you can do. The more proficiency and creativity you show in your submission the higher the grade you will achieve.

If you aim for a high distinction, you will be demonstrating that you understand what programming can do, can independently find resources to support programming efforts, and are growing in your capability to build large, elegant, and sophisticated software solutions.

If you choose to target a high distinction grade, you will have less time to spend on the pass and credit tasks as you will need that learning to tackle the higher-grade tasks. Make sure to communicate with your tutor about your plans for the high-distinction task and discuss it with them.

Feedback

Feedback is intended to provide you with information on your work and guidance on how to improve. With OnTrack, you receive feedback throughout the trimester so you can improve your work and achieve the learning required.

When you submit your work in OnTrack **before** the due date, this will start the feedback process which you need to engage with. Feel free to be the one who initiates the feedback conversation with your tutor. Your tutor will review your work and respond with comments to indicate if there are things that you need to address or questions they have about your understanding. You may need to fix aspects of your work or discuss your understanding with the tutor before the task can be marked as Complete.

Getting the tasks marked as Complete in OnTrack is your way of knowing you **will** get the grade you are aiming for. If all the tasks are Complete – you already know your grade before submitting your portfolio!

You are encouraged to submit tasks early. For example, tasks due at the end of week 6 can be submitted for feedback in weeks 1, 2, 3, 4, 5 or 6. This is important because you may need to take feedback in and resubmit.

Showing that you can receive and respond to feedback will help improve your final grade, and this process will help you learn. Ensure you make the most of the feedback dialogue and don't be scared to ask questions!

Learning with others

Learning with others in this unit is not only promoted but expected.

Learning with peers through asking for help, supporting others, or sharing your learning, has many benefits for all involved. For those needing help, it provides social support and encouragement. For those making progress, it allows them to tackle more complex problems than they could on their own, pool knowledge and skills, and share diverse perspectives. For those willing to extend their knowledge, it provides the opportunity to challenge assumptions and confirm deep learning. For everyone, it helps develop strong communication and collaboration skills, and develop their own voice.

However, you need to be careful to avoid **collusion** when working with others!

What is collusion? Copying or letting someone copy your work. For that reason, when you help others or ask help from others, make sure the conversation focuses on explanations of how things work, how to do things, or how to think about addressing the task, rather than completed solutions or tasks.

Sharing of your custom programs is encouraged, but we ask you not to share your work or solutions for set activities in online sharing platforms, including GitHub.

Timelines

Tutors will provide feedback and check tasks at least a couple of times each week. Please make sure to check with your tutor for when they will check tasks and provide feedback. We aim to provide you with feedback each week.

Note that the due dates are independent of your target grade, and only reflect the date by which you should submit to get feedback. However, if you submit all tasks on their due date, you will run out of time before being able to work on the higher-grade tasks. If you are aiming for a higher grade, you need to work ahead of these times to fit in the subsequent tasks. The following table provides suggested submission dates, by grade, for each task. You can use this to help plan your time.

Task		Suggested Week Due by Grade			
		Pass	Credit	Distinction	HD
P1	Learning Plan	1	1	1	1
P2	Building and Running	1	1	1	1
P3	Sequence and Data	2	2	1	1
P4	Control Flow	4	4	3	2
C1	Project 1	-	4	3	2
P5	**Test 1 (run in week 5)**	4	4	4	4
P6	C / C++	5	5	4	3
P7	Structuring code	6	5	4	3
P8	Structuring data	7	6	5	4
P9	Indirect access	8	7	6	5
D2	Custom Program Plan	-	-	6	6
P10	Working with multiples	9	8	7	6
P11	**Test 2 (run in week 7, 9, and 11)**	11	9	7	7
C2	Project 2	-	9	8	7
C3	Another Language - Python	-	10	9	8
D3	Deep Dive Memory	-	-	-	8
C4	Classes and Objects	-	11	10	9
D4	Custom Program Implementation	-	-	11	10
D1	Active Collaborator	-	-	11	11
H1	Custom Program HD Report	-	-	-	11
H2	Something Awesome	-	-	-	11
P12	Learning Summary	11	11	11	11

The following visualisation is intended to capture the different paths through the tasks, illustrating the different achievements each grade represents.
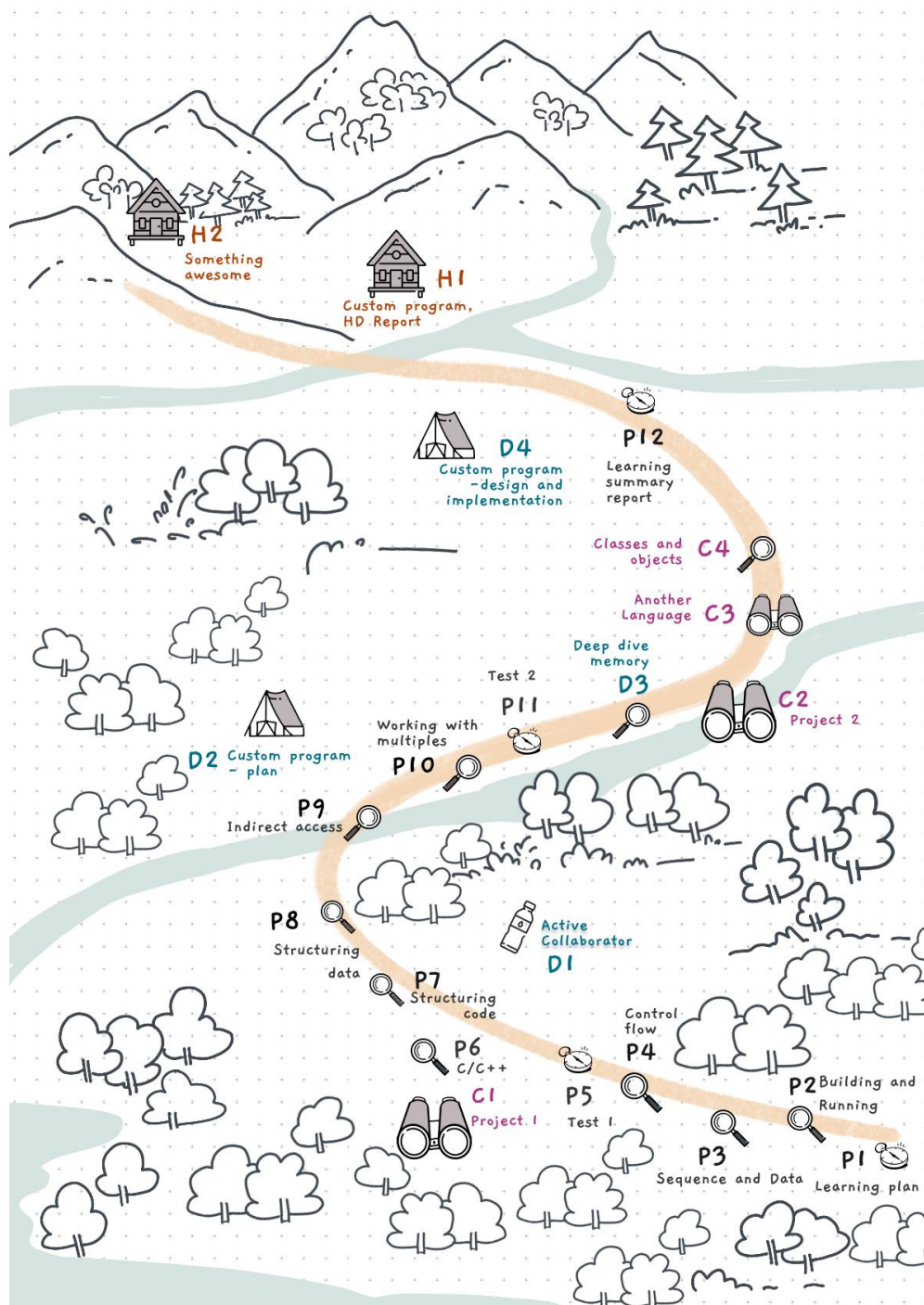
	Planning and reflecting on the unit		Applying learned concepts to build a program
	Looking closely into concepts		Going beyond what has been taught
	Putting concepts together		Active Collaboration

Test 1 and Test 2

There are two tests that you need to sit as part of your portfolio for the unit. Test 1 occurs in week 5, and Test 2 occurs between weeks 7 and 11. These are required learning activities in your timetable, so please ensure you are allocated appropriately.

When your test is assessed, it will be given one of these results:

- **Complete** – you have passed the test.
- **Fix and Resubmit** – there are some issues with the test that you need to resolve. Collect the test from your tutor, make the required corrections, then resubmit.
- **Redo** – you need to sit the test again to demonstrate the required outcomes (Test 2 only).

Please note: Once Test 2 is *Complete*, you do not need to sit it again. This means you only need to sit it when it is *Not Started* or in the *Redo* status.

Campus Students

If you are enrolled on campus for your course, then you will sit these tests at the indicated location in your timetable. Test 1 runs in week 5. Test 2 runs in weeks 7, 9, and 11. The test will be conducted on paper, so please remember to bring appropriate pencil, pen, and erasers. No other material will be required or permitted.

Online Students

You will sit an online version of Test 1 and 2. Test 2 incorporates an interview in which you must demonstrate an adequate level of understanding for the task to be marked as complete. You will need to book this interview with a tutor, and details on this will follow for online students. The location of the interview depends on your course enrolment status. Students with an Online course

enrolment will complete this in Teams, those with an On Campus course enrolment will complete this in person on campus.

For online interviews, you need to ensure you have a working microphone and camera, and adequate network bandwidth for clear communication. Please ensure your camera, screen sharing, and microphone are all working before your interview.

Identification

Please ensure that you bring your student card and one other form of identification to the test.

Don't Stress

The tests in this unit are only checking that you have a good understanding of the essential content. If you are progressing well through the tasks, you should have no trouble getting it to the required standard. You must pass these to pass the unit, but there are opportunities to re-sit if you really miss something important, or to fix the test when you get it close enough.

We promise that there will not be any tricky questions, there will be plenty of time, and that the practice tests will be very close to the real test. Our goal is just to validate that you have achieved the required understanding to pass.

How to Succeed in SIT102:

Attend classes: The classes give you access to tutors and other students working on the same topics as you. They provide a great environment to engage with the unit, clarify difficulties and accelerate your progress. Students who attend class regularly are much more likely to find the OnTrack tasks easier to complete, stay up to date, and generally find the unit quite manageable. Students who miss classes tend to take much longer to complete OnTrack tasks, find them more difficult to complete, and find themselves to be less knowledgeable about key topics.

Stay up to date with your tasks: we have OnTrack tasks due every week, so it helps to complete tasks in a timely fashion so you don't have a large collection of tasks to complete all at once (which can happen quite quickly) and generally leads to poor quality work and a fail result in the unit.

Engage and be involved: successful students are those that ask their tutors questions, are active on the MS Team channel or Discussion forum, and reach out for help when they need. You'll learn a lot from these interactions, so make yourself known to your tutors and classmates.

Your task

1. Complete Related Activities

1. Download the template from the OnTrack resources.

2. Complete your response including:

    o Describe your current knowledge of this area and what you think programming is.

    o Reflect on what you want to learn in this unit and why. How does this relate to your future career or to your personal interests?

    o Choose a target grade and explain why you have chosen to target that grade.

    o What do you need to demonstrate to achieve this grade? Relate this to the meaning of each grade described above.

    o Select your target grade in OnTrack and update the dates in the timeline table in your submission. Make sure to base your dates on your target grade and personal circumstances.

    o Sign to indicate you have read and understand the unit feedback process, assessment requirements, tests, dates, and times.

    Expected length: as many or as few words as are needed to convey the message. Clarity and authenticity are more important than length.

2. Prepare Submission

For this task you need to submit a PDF version of the report from the template.

Upload Your Submission

Once you have your submission ready, login to OnTrack and mark the task as **Ready for Feedback**. The submission process will ask you to do the following:

- Upload the PDF document
- Reflect on how the task related to the unit focuses (Programming Concepts, Programming Process, Coding, and Professional Characteristics).

Engage with Feedback

To get the task Complete, you need to engage with the feedback you receive. Your tutor will review your submission and may ask you to clarify aspects of the task or include aspects you have missed.

If you are asked to resubmit, ensure your subsequent submission includes a comment that describes how you have addressed the feedback you received. This needs to demonstrate how you have addressed all the aspects indicated by your tutor in their feedback on your learning.

Tip: Initiate feedback

When you submit your work, you can add a comment to your tutor. It is a great idea to use this to ask for specific feedback on your work. This can help make sure you receive the most effective feedback to support your learning.