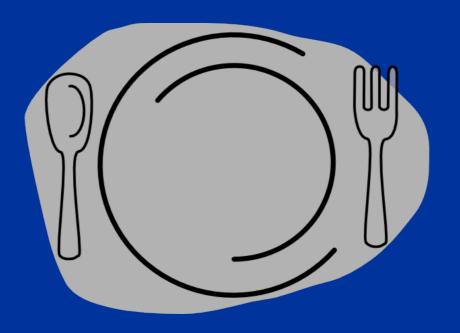
# HEALTHY EATING AT UNISA







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# **WELCOME**

University life can be a busy time, trying to balance study, exams, social interactions and work commitments. Often nutrition can be overlooked or of low priority to students. This publication is designed to help students at University of South Australia (UniSA) to make the best decisions to support healthy eating both on and off campus.

A healthy diet provides many amazing benefits that can assist in maintaining energy levels, concentration and a healthy body weight. Making healthy food choices doesn't have to be complicated, boring or expensive. This publication will provide you with the necessary information and resources to make these choices simple, inexpensive and enjoyable.

UniSA has committed to becoming a leading health promoting university where the wellbeing and resilience of our diverse community of students and staff is of a high priority. Our aim is to build an inclusive and connected community, where a culture of wellbeing is reflected in University policies, practices, programs, learning and physical environments. UniSA aspires to be a thriving community where students and staff feel connected, protected and respected.

This publication has been developed as a part of UniSA's Wellbeing Internship offered to students from School of Health Science, School of Communication, International Studies and Languages and School of Psychology and Social Work. This Internship allows student to work under the supervision and support of UniSA staff within the Student Engagement Unit, with aims of enabling student to participate in initiating and leading wellbeing projects that target the UniSA community.

Konstance Nicolopoulos UniSA Wellbeing Intern



## **AUSTRALIAN DIETARY GUIDELINES**

The Australian Dietary Guidelines give advice on eating to maintain and improve health and wellbeing, as the foods that we eat influence our overall health and longevity.

#### These guidelines aim to:

- Promote health and wellbeing,
- Reduce the risk of diet-related conditions, such as high cholesterol, high blood pressure and obesity, and
- Reduce the risk of chronic diseases such as type 2 diabetes, cardiovascular disease and some cancers.

#### The Australian Dietary Guidelines consist of five recommendations, being:

- To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs
- Enjoy a wide variety of nutritious foods from the five groups every day
- Limit intake of foods containing saturated fat, added salt, added sugar and alcohol
- Encourage support and promote breastfeeding
- Care for your food; Prepare and store it safely

# **AUSTRALIAN GUIDE TO HEALTHY EATING**

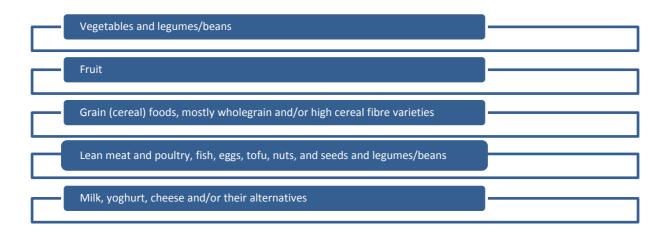
The Australian Guide to Healthy Eating is a food selection guide which visually represents the proportion of the five food groups recommended for consumption each day. The food and drinks we choose each day play a role in determining our overall health, this consumption must be balanced to ensure we eat a variety of foods from the five food groups.

(Eat for Health 2017)



# **FOOD GROUPS AND SERVING SIZES**

#### The Five Food Groups:



The key to eating a healthy diet is enjoying a variety of nutrients from the five food groups. The foods in each category are grouped by their type and their contribution of nutrients to the Australian diet. By choosing a variety of nutritious foods, both from the five groups and within each group, over the period of a week and making seasonal choices increases the likelihood of obtaining a sufficient nutritional intake.

#### **Serving Sizes:**

Within each food group the *Australian Dietary Guidelines* identifies the serving size of different foods that have approximately the same amount of key nutrients and kilojoules, also reflecting the amount of food commonly eaten in Australia. The serving size is a set amount stated in the Dietary Guidelines and doesn't change. However, some day's people may eat more serves from one food group and other days less. Although, over the week, the average number of serves from each food group should match the minimum intake recommended in the Guidelines.

The following tables provide the number of serves recommended per day for adults in order to provide the nutrients and energy needed for individuals of average height with sedentary to moderate activity levels.



Recommende	d average da	ily number of	serves from	each of the	Five Food Gr	oups*	Additional serves for taller or more active men and women
	Age	Vegetables and legumes/ beans	Fruit	Grain (cereal) foods, mostly wholegrain and/or high fibre cereal varieties	Lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans	Milk, yoghurt, cheese and/or alternatives, mostly reduced fat	Approx. number of additional serves from the Five Food Groups or unsaturated spreads and oils or discretionary choices
Men	19–50	6	2	6	3	2½	0–3
	51–70	5½	2	6	21/2	2½	0–2½
	70+	5	2	4½	2½	3½	0–2½
Women	19–50	5	2	6	2½	2½	0–2½
	51–70	5	2	4	2	4	0–2½
	70+	5	2	3	2	4	0–2

(Eat for Health 2017)

# **UNDERSTANDING NUTRIENTS**

The body needs a variety of nutrients for optimal function. These nutrients can be divided into two categories, macronutrients — these are needed in large amounts, and micronutrients — which are needed in small amounts. Macronutrients include proteins, carbohydrates, fats and water. Micronutrients include vitamins, minerals and trace elements.

#### **Macronutrients:**

#### **Proteins**

Proteins form integral parts of most body structures such as our skin and muscles, therefore they play a crucial role in supporting the growth and repair of body tissues. Proteins also



facilitate chemical reactions and regulate body processes through enzymes and hormones. Proteins are composed of amino acids which are assembled in long chains. There are 22 amino acids, 13 which are 'non-essential' amino acids, which means the body can make them itself and nine which are 'essential' amino acids which must come from our diet because our bodies cannot make them. Protein is found in both animal and plant food products. However, animal products contain all 22 amino acids, whereas plant products lack one or more of the essential amino acids. Approximately 10-35% of total food energy should come from protein. Protein can be found in meats, eggs, fish, beans, legumes, nuts and seeds.

#### **Carbohydrates**

The primary role of carbohydrates is the provision of energy to the body, particularly to the brain. Carbohydrates come in two main forms, simple carbohydrates and complex carbohydrates. The body converts both forms into glucose which provides energy to the body. Therefore, carbohydrates are vital when it comes to fuelling the body for optimal performance both physically and cognitively and shouldn't be removed from the diet. Simple carbohydrates include, monosaccharides which consist of a single sugar molecule (glucose, fructose and galactose), and disaccharides which consists of sugars composed of pairs of monosaccharides (maltose, sucrose and lactose). Simple carbohydrates are easily absorbed into the bloodstream and quickly raise blood sugar levels. Complex carbohydrates include, glycogen, starches and fibre, which contain many sugar molecules linked together. As these are larger molecules, they are absorbed more slowly and keep blood sugar levels stable. Approximately 45-65% of total food energy should come from carbohydrates. The best source of carbohydrates can be found in wholegrain products, vegetables and legumes.

#### **Fats**

Fats are the most concentrated form of energy for the body, they also aid in the absorption of fat-soluble vitamins and other fat-soluble components. Dietary fats include triglycerides, phospholipids, phytosterols and cholesterol. Most fats in foods are triglycerides, which are formed by attaching free fatty acid molecules to a molecule of glycerol. These fatty acids can be saturated or unsaturated (monounsaturated or polyunsaturated), with foods containing a combination of the two. Saturated fats are typically known as 'bad fats' because they negatively effects cholesterol levels. They are mainly found in animal based products, such meat, lard and dairy products and are usually solid at room temperature. Unsaturated fats are known as 'good fats' as they reduce the risk of cardiovascular disease and inflammation. Both omega-3 and omega-6 are unsaturated fats, vital within the diet. They are predominately found in plant based products, such as olive oil, avocados, nuts and oily fish and are typically liquid at room temperature. Approximately 30% of total food energy should come from fats.



#### Water

Water is defined as an essential nutrient as it is required in amounts that exceed the body's ability to produce it. Water plays an important role within the body as all chemical reactions occur in water. It fills the space between cells and helps form molecules such as protein and glycogen. Water is required for digestion, absorption, transportation, eliminating waste and thermoregulation. Water accounts for 50-80% of body weight and daily water needs depend on body size, activity level, the weather and types of food and drinks consumed. There is no single level of water intake that would ensure hydration, however an adequate intake of 2.8L to 3.4L per day for men and women aged 19-50 is recommended. When you are dehydrated, it can affect your physical and cognitive performance and lead to tiredness, dizziness and headaches.

#### **Micronutrients:**

#### **Vitamins**

Vitamins are powerful substances and when absent lead to a number of deficiencies and subsequent symptoms. Vitamins differ from protein, carbohydrates and fats in structure as they are individual units and are not linked together. Additionally, they do not yield usable energy when broken down, but assist the enzymes that release energy from macronutrients. They also play a role in helping produce DNA, protect the body against damage and assist in blood-clotting. The amounts of vitamins needed in the diet are ensured in micrograms and milligrams rather than grams.

#### Minerals

All minerals are vital to optimal body function. There are two categories of minerals, being major minerals and trace minerals. The major minerals are present and needed in large amounts in the body and the trace minerals are present and needed in smaller amounts. Minerals are inorganic elements that always retain their chemical identity, once they enter the body minerals remain unchanged until excreted.

By eating a wide variety of foods from the five food groups, all vitamins and minerals can easily be obtained through the diet. The absorption of vitamins and minerals through food along with other added nutrients is the optimal source of these micronutrients. Vitamin supplements may be useful for people with dietary restrictions or vitamin deficiencies, however it is important to consult a doctor prior to taking supplements.

This table provides information on a number of vitamins and minerals, their function in the body and the food sources which they are found.



Vitamins & Minerals	Function	Food Sources
Vitamin A	Supports reproduction, growth and vision.	Liver, sweet potatoes, mango, carrots and broccoli.
Vitamin D	Assist in the absorption of calcium to promote bone growth and maintenance.	Salmon, herring, mackerel, fortified breakfast cereals and fortified margarine – but sunlight is the main source.
Vitamin E	Protects the body against free radicals and the oxidation of polyunsaturated fatty acids.	Vegetable oils and wheatgerm.
Vitamin K	Acts primarily to promote blood clotting.	Dark green leafy vegetables and vegetable oils.
Vitamin C	Helps protect gums, teeth, bones and collagen. Helps with wound healing and immune function. Helps the body absorb iron.	Red bell peppers, kiwi fruit, Brussel sprouts, strawberries and broccoli.
Potassium	Helps regulate fluid and electrolyte balance.	Squash, artichoke, soybeans, strawberries and carrots.
Calcium	Needed for healthy bones and teeth and needed for muscle and nerve function.	Dairy products, sardines (including edible bones), Bok choy and tofu.
Magnesium	Vital for bone health and energy metabolism.	Halibut, cashews, artichokes, pinto beans, tofu and broccoli.
Phosphorus	Important for bones and teeth and needed for growth as a part of DNA and RNA.	Liver, tofu, sunflower seeds, dairy products and broccoli.
Iron	Important for producing energy, optimal immune function and storing oxygen in the muscles.	Liver, beef, kangaroo, lamb, Weetbix, kidney beans, tofu, chickpeas.
Zinc	Assists immune function, protein synthesis, wound healing and sperm production.	Oysters, crab, beef, pork, chicken, fortified breakfast cereals.

# **READING FOOD LABELS**

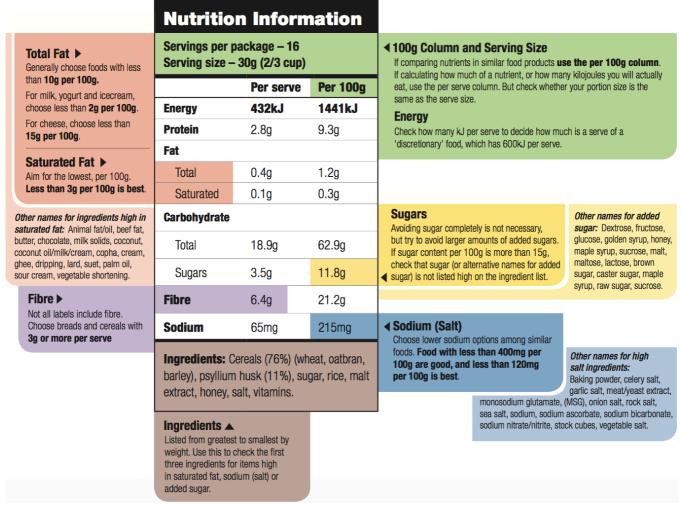
#### **Food Labels**

Food labels can be confusing, often we don't have the time to try and work out what they mean. However, with a few easy tips this information will be easy to understand and will help you make the best choices for your health when shopping. Labels of packaged food



must meet strict requirement and provide information about allergens, food additives and food storage instructions. While food labelling can also contain many other forms of information, the Nutrition Information Panel is the most useful thing to look for. The Nutrition Information Panel is useful when trying to decide which product provides less saturated fat, sodium, added sugar and kilojoules per 100gm and more fibre per serve.

The image below will help you understand each section of a Nutrition Information Panel.



(Eat for Health 2017)

When reading food labels, it also important to understand the difference between the dates on food labels and the meaning of the following terms.

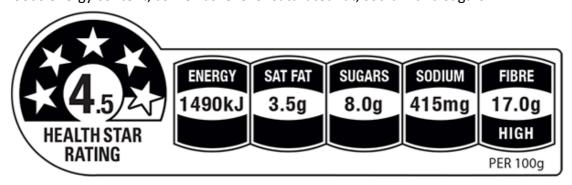
- Use by date meaning: This date means that the food should be eaten or thrown away by this date. The food may be unsafe to consume after this date, even if it looks okay. This food cannot legally be sold after this date has passed.
- Best before date meaning: This date means that the food is at the best of its quality before this date. You can still eat foods for a while after the best before date as it



should still be safe. This food can still legally be sold after this date, providing it is still safe to eat.

#### **Health Star Rating**

The Health Star Rating system is a labelling system on the front of food packaging, developed for use in Australia and New Zealand. Its aim is to provide convenient, relevant and readily understood nutritional information to assist customers to make informed food purchases and healthier eating choices. It a useful source of information to compare similar food products, the more stars... the healthier the choice. Also, providing information on the foods energy content, as well as level of saturated fat, sodium and sugars.



# **FOOD SAFETY**

There are a few basic food safety tips to follow to prevent food borne illnesses. These illnesses are preventable through good hygiene and safe food handling practices. We all must ensure that safe food handling practices are applied from the time food is purchased until the time it is served.

#### **Shopping & Storing of Food:**

- **Tip 1:** Always check date markings on food packages to ensure they are in date.
- **Tip 2:** Get refrigerated and frozen foods at the end of the shopping trip, to ensure they stay cool. Try keep hot foods separate from cold foods.
- **Tip 3:** Try and keep food in your car for as short a time as possible to prevent bacteria from multiplying.
- **Tip 4:** Store eggs in the fridge to prevent any safety risk and to prolong shelf life.
- **Tip 5:** Freeze products that you do not intend to eat before the use by date immediately.
- **Tip 6:** Ensure the temperature of your fridge is below 5°C.
- **Tip 7:** Allow cooked foods to cool to room temperature before storing in the fridge.
- **Tip 8:** Store raw meats at the bottom of the fridge to prevent cross contamination.

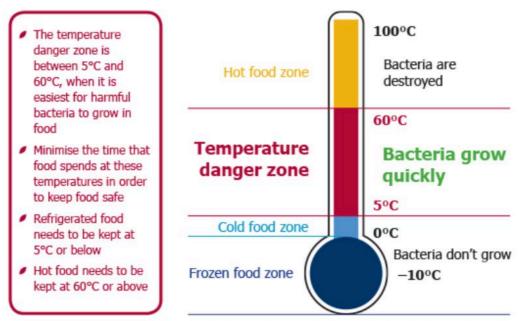


#### **Handling & Preparing Food:**

- **Tip 1:** Regularly and thoroughly wash and dry hands before starting food preparation, after handling raw meats or eggs and after using the toilet.
- **Tip 2:** Ensure work surfaces, utensils and cutting boards have been cleaned and sanitised before being used to handle and prepare food.
- **Tip 3:** Ask other people to prepare food if you are not well.
- **Tip 4:** Never place cooked foods on dishes that have had raw products on them, unless they have been washed.
- **Tip 5:** All fruit, vegetables and herbs should be washed before eaten raw or serving in a meal.

#### Thawing, Cooking, Cooling and Reheating of Food:

- **Tip 1:** Thaw meat and other foods on the bottom shelf of the fridge, do not thaw food on a bench at room temperature. Defrost meats all the way through before cooking to ensure the centre will cook completely.
- **Tip 2:** Ensure whole pieces of meat such as steak are seared on the outside and not eaten raw
- **Tip 3:** Make sure all processed meats such as mince and sausages are cooked all the way through.
- **Tip 4:** When microwaving foods, always rotate and stir the food during cooking to obtain a more even heat and prevent cold spots.
- **Tip 5:** Ensure food is allowed to cool prior to being placed in the fridge. Divide large portions into shallow dishes to increase the rate of cooling.
- **Tip 6:** When reheating foods, heat until steaming hot to kill any bacteria which may have grown on the food in the fridge.



(SA Health 2017)



# **FRIDGE STORAGE TIPS**

The way that you store your fridge ultimately determines the freshness and longevity of the food inside. By storing items correctly, you can also cut down on electricity costs. Here is an example of the best method to store your food to keep them fresher for longer.





## **HOW TO ELIMINATE FOOD WASTE**

Australians discard up to 20% of the food they purchase, this equates to an average of \$1,036 of food being thrown away every year per household. Young consumers (18-24 years of age) are the biggest wasters of food, for a variety of reasons.

#### This food is wasted because...

- We tend to cook too much food and don't know how to use leftovers.
- Food is mistakenly thrown out before its use by or best before date.
- We don't check the pantry or fridge before going shopping.
- We buy too much because we don't write a shopping list.
- We buy take away instead of cooking and eating the we food we have at home.

Food that is thrown away rots and gives off methane, which is a greenhouse gas and is 25 times more potent than the carbon pollution that comes from cars. When food is thrown away, this also wastes the water, fuel and resources put into getting the food from the paddock to your plate.

#### How to eliminate food waste at home:

- 1. Plan your meals weekly, think about events when you don't need meals.
- **2.** Always write a shopping list before going to the shops.
- 3. Include quantities on your shopping list so you don't overbuy.
- **4.** Look through your fridge and pantry before going shopping to avoid buying items you already have.
- 5. Buy only what you need and will use.
- **6.** Store your food correctly to avoid spoilage.
- 7. Use leftovers.

(EPA 2017; Foodwise 2017)

# **SEASONAL FRUIT & VEGETABLES**

When buying fruit and vegetables, the produce that is locally in season is cheaper, tastes better and has more nutrients. Fruit and vegetables start to lose nutrients immediately after they are harvested, so the best produce is that which is local and market fresh daily. Produce that has been transported over long distances overseas or cross-country cannot compete with locally grown produce, therefore it is best to buy items which are seasonal.



Here is a list of the seasonal availability of fruit and vegetables in Adelaide.

Autumn	Winter	Spring		Summer	
Apples	Apples	Asparagus	Green beans	Apricots	Okra
Brussel Sprouts	Beetroot	Avocado	Leek	Asparagus	Passionfruit
Celeriac	Cauliflower	Bananas	Lemon	Blueberries	Peaches
Figs	Fennel	Beetroot	Lettuce	Capsicum	Plums
Pears	Grape fruit	Blood orange	Lychee	Celery	Radish
Persimmon	Artichokes	Bok choy	Mandarin	Cherries	Raspberries
Pomegranate	Kale	Broccoli	Mango	Chilli	Rhubarb
Quince	Lemons	Cabbage	Mushrooms	Eggplant	Watermelon
Shallot	Limes	Carrots	Peas	Figs	Zucchini
Snow peas	Mandarins	Cauliflower	Pineapples	Grapes	
Sugar snap peas	Oranges	Celery	Potatoes	Guava	
Sweet potatoes	Parsnips	Cucumber	Pumpkin	Kiwi fruit	
Turnips	Pumpkin	Garlic	Strawberries	Mango	
	Spinach	Grape fruit	Tomatoes	Nectarine	

(Adelaide Central Market 2017)

Also visit <a href="http://www.ripenear.me">http://www.ripenear.me</a> to find free or cheap home-grown local produce!

# **PANTRY STAPLES**

It's always useful to keep a number of basic cooking items on-hand to create quick and easy nutritious meals whilst on the go. The list below offers a starting point which can be added to in order to suit each person's individual cooking preference.

Pantry Items	Fridge/Freezer Items	Fruit & Vegetables
Pasta	Milk	Seasonal fruit
Rice	Eggs	Seasonal vegetables
Flour	Butter	Garlic
Vegetable & olive oils	Cheese	Onion
Vinegar	Yoghurt	Potatoes
Dried herbs & spices	Condiments	Sweet potatoes
Cereal/oats	Meats	Ginger
Nuts, dates and seeds	Frozen vegetables	Lemons
Tinned tomatoes	Frozen fruit & berries	
Tinned beans & pulses	Bread	
Tinned tuna and salmon	Pizza bases	



Tinned coconut cream/milk	Fruit juice	
Stock	Curry paste	
Nut bars	Dips	
Crackers		
Tea & coffee		
Honey & spreads		

# HEALTHY EATING ON A BUDGET & MEAL PLANNING

Thinking ahead and planning meals and snacks for yourself is the key to healthy eating. Planning these meals can also assist in budgeting, making shopping easier and maximising foods that are high in nutrients and low in kilojoules.

#### Here are a few tips to make health meal planning easier:

- Tip 1: Use what you already have.
- **Tip 2:** Spend most of your food budget on the five food groups.
- **Tip 3:** Eat fruit and vegetables which are in season.
- **Tip 4:** Make a shopping list and only buy what you need.
- **Tip 5:** Take leftovers for lunch or freeze for later use.
- **Tip 6:** Make use of supermarket specials when buying pantry staples.

A number of apps may also help you plan your meals whilst on the go:

- Coles
- Woolworths
- Meal Planner Pal
- Healthy Eating Meal Planner & Clean Eating
- Food Switch

# STUDENT EATING HACKS

Student eating hacks can make preparing food cheap, easy and healthy. Here are a few tips to help you in this process:



- **Tip 1:** Invest in a microwave steamer, items such as vegetables and pasta can be cooked using this utensil.
- **Tip 2:** Flavour your ramen or two minute noodles with soy sauce and garlic power rather than the included flavour sachet.
- **Tip 3:** Invest in a sandwich press, there are amazing recipes online which can help you cook not only toasties but also grilled vegetables, homemade hash browns and grilled chicken.
- **Tip 4:** Invest in a rice cooker, you can not only cook rice using this device but also fried rice, pasta, potatoes and vegetables.
- **Tip 5:** Create a healthy breakfast by adding frozen fruit (cheaper than fresh fruit) to your boring porridge or Weetbix.
- **Tip 6:** Your microwave is your best friend, it can save you time reheating already cooked meals or help you create tasty new meals with the touch of a button.

# **EATING FOR EXAMS**

Exam period is a stressful time for all students and can result in eating foods that are high in saturated fat, sodium and added sugar. To help boost memory, improve concentration and achieve top results, the type and timing of your meals play a crucial role in success. Good nutrition leading up to exams will boost mental alertness during long hours of study. Don't be tempted to reach for chocolate and sugary snacks. Here are a few tips which will assist you in maintaining good nutrition during exam period.

- **Tip 1:** Eat meals regularly. Don't skip meals (especially breakfast).
- **Tip 2:** Stop for small snack to maintain energy levels. Try eating nutritious snacks such as nuts, fruit or a glass of milk.
- **Tip 3:** Eat foods rich in iron and zinc to improve memory and concentration. Try eating lean meats, seafood and wholegrains such as, wholegrain pasta, bread and cereals.
- **Tip 4:** Eat foods rich is B vitamins to help the brain and nervous system. Try eating vegetables, Vegemite and pulses such as lentils or baked beans.
- **Tip 5:** Eat plenty of complex carbohydrates to ensure blood sugar levels remain stable. Try eating wholegrain bread or pasta, vegetables and legumes.
- **Tip 6:** Make sure you drink plenty of water to stay hydrated and prevent fatigue.
- **Tip 7:** Avoid consuming too many caffeinated drinks. They may make you restless and jittery.
- **Tip 8:** Avoid drinking alcohol, as it may affect brain function and concentration.
- **Tip 9:** A small treat may be useful to reward yourself for the hard work you are putting in.

(Saxelby 2010)



# **FOOD & FACILITIES ON CAMPUS**

UniSA currently offers a variety of foods on campus through food outlets and also through vending machines, which offer assorted food and beverages across a number of locations. Bringing small snacks and prepared meals from home may be the best option to avoid buying on campus. Options such as fruit, tuna, beans and sandwiches are easy options which can be placed straight into your bag. Other options such as prepared meals can be easily placed into a cooler bag with a few ice packs in order to keep cool whist on campus.

Additionally, UniSA also provides microwaves, sandwich presses, outdoor kitchens and BBQ's at all campuses, along with a student lounge at City West. This space provides students with fully equipped cooking facilities to bring along food to prepare when on campus. This gives students the opportunity to prepare healthy meals whilst on campus to provide a sense of 'placemaking' which promotes health, happiness and wellbeing. It is also important to remember that both City East and City West are close to Adelaide's CBD, where a huge range of cost effective and healthy meals can be purchased!

