Have you ever wondered why you can remember the name of your first family pet, yet can’t seem to recall details from a lecture you attended last week or remember much from a course you completed last semester?

The answer to this question lies in the way you learn!

- We lose or acquire information through an information-processing system in our brain (see reverse). This system identifies how we store, encode (change information in some way before it is stored) and retrieve information.
- Learning involves getting information into long-term memory! Much of what we think we have learned is soon forgotten or was never really learned in the first place.
- The specific strategies you use to store information in your long-term memory affect how likely it is that you will remember the information.
- Frequent review keeps memory from ‘fading’ over time. We lose about 50% of what we learn in a 24 hour period (because our short-term memory ‘decays’ quickly) so unless you reinforce and review notes and information frequently, you end up having to re-study everything come exam time!
- Think of your short-term memory as an email inbox, unless you process your emails (e.g. delete junk mail or file away important mail and stuff that you want to keep into the relevant folders), your inbox fills up and you can’t receive any new mail. An effective processing system makes it easy for you to retrieve specific information.
- The Feedback Loop lets you know whether you’ve learned. The key thing here is to test yourself to see if you’re getting it. Can you explain or write it in your own words? Can you work the problems without looking? If the feedback is positive move on to new material, if the feedback negative, keep studying. You can never “overlearn” something so study beyond basic understanding, study until you KNOW you know it!
- Long term memory (LTM) is like a giant filing system that efficiently stores our knowledge about the world but unlike the working memory, there is little decay!
- There are three main activities related to long-term memory: storage, deletion and retrieval. Information from short-term memory is stored by recursive review (talk to an ASIP instructor about this strategy). The repeated exposure to a stimulus or piece of information, transfers it into long-term memory, especially if your review is distributed over time.
- There are two types of information retrieval: recall and recognition. In recall, the information is reproduced from memory. With recognition, you recognize that you’ve seen the information before.
- An ASIP instructor can work with you to improve your information processing system, by helping you develop good class prep and learning strategies.
The flow of information begins with input from the environment. This information enters the STM where it is stored for a matter of seconds until it can be attended to by the WM. Everything you see, hear, or smell is stored in the STM, but many of the stimuli we experience never get into our WM because we don’t attend to them. Can you remember every student you walked past or sat next to in a day? Can you remember everything a professor said in class? You may remember people you find attractive or things you find interesting, but only because you pay attention to them! Unless you make special attempts to attend to and record information much of the material is never stored in memory and you don’t learn it.

This is the active part of the memory system. When we are consciously trying to think of something or actively trying to remember, we are using our WM. Your WM screens and decides how to handle different stimuli. If you believe information is important it should not be left in your WM because it will be forgotten (WM lasts 5 – 20 seconds). Information must be processed in your WM before it can be transferred into LTM. This means you have to do something active with it! Because the WM has such a short duration, the processing must be completed fairly quickly or at least rehearsed until it can be processed. Students mistakenly believe they will remember something important that a professor says so don’t write it down. We can only learn 1 – 6 new ideas from each minute of a lecture. This is a small number of the ideas typically presented during that time. You, therefore, need to be conscientious and decisive about what you record.

LTM stores all the information we process but are not immediately using. Storage of information is believed to be permanent. Forgetting is the inability to retrieve or locate information, rather than the loss of information. Information enters the LTM from the WM and must be classified, organized, connected and stored with information already in LTM if you want to retrieve it easily later. It takes time and effort to move information into the LTM. Prior knowledge plays an important role in learning. The more information you know before going into lecture the easier it is to take notes and understand. To keep knowledge fresh and accessible, means you have to have a good processing system in place. You should be continually updating and revising your mental ‘filing closet’.