Memory — a set of processes used to encode, store, and retrieve information over different periods of time

Encoding — When the brain receives information from the environment, it:
- Labels / codes it
- Organizes it with other similar information
- Connects new concepts to existing concepts

Types of encoding
- Semantic encoding — encoding of words and their meaning
- Visual encoding — coding of images
- Acoustic encoding — encoding of sounds

Enhancing Encoding
Self-reference effect — the tendency for an individual to have better memory for information that relates to oneself in comparison to material that has less personal relevance

Storage — the creation of a permanent record of information
Sensory input -> Sensory memory (information not transferred is lost) -> Short term memory /STM (information not transferred is lost) -> Long term memory / LTM

- Sensory memory — storage of bird sensory events, such as sights, sounds, and tastes
- Short-term memory / working memory — a temporary storage system that processes incoming sensory memory
- Short-term memories are either discarded or stored in long-term memory

- Memory consolidation — transfer of STM to long-term memory
- Rehearsal — the conscious repetition of information to be remembered

- Long-term memory — the continuous storage of information

Explicit (declarative) memory — a memories of facts and events we can consciously remember and recall / declare
Explicit memories include two types:
- Semantic — knowledge about words, concepts and language
- Episodic — information about events we have personally experienced

Hyperthymesia — highly superior autobiographical (episodic) memory

Implicit Memory — memories that are not part of our consciousness
- Procedural
- Priming
- Emotional conditioning

Retrieval — the act of getting information out of memory storage and back into conscious awareness
3 ways to retrieve information
- Recall — being able to access information without cues
- Recognition — being able to identify information that you have previously learned after encountering it again
- Relearning — learning information that you previously learned

Flash bulb memory — a record of an atypical and unusual event that has very strong emotional associations

Amnesia — the loss of long-term memory that occurs as the result of disease, physical trauma, or psychological trauma
Anterograde amnesia — inability to remember new information after the point of trauma

Memory construction and reconstruction
Construction — formulation of new memories
Reconstruction — process of bringing up old memories

False memories — mental experiences that people believe are accurate representations of past events
- False memories can be induced
- About 25-50% of people are susceptible to false memories

Memories and childhood
- Research suggests that our earliest memories can start at around 2.5 years of age

Forgetting — loss of information from long-term memory
Encoding failure — occurs when the memory is never stored in out memory in the first place

Schacter's 7 sins of memory
Forgetting type:
- Transience — accessibility of memory decrease over time (storage decay)
- Absentmindedness —forgetting caused by lapses in attention
- Blocking — accessibility of information is temporarily blocked (aka tip-of-the-tongue phenomenon)

Distortion type:
- Misattribution — source of memory is confused
- Suggestibility — false memories
- Bias — memories distorted by a current belief system

Intrusion type:

- Persistence — inability to forget undesirable memories

Interference
Proactive interference — old information hinders recall of new informations
Retroactive inference — new information hinders recall of old information

Ways to enhance memory
- Rehearsal — conscious repetition of information to be remembered
- Chunking — organizing information into manageable bits or chunks
- Elaborative rehearsal — technique in which you think about the meaning of the new information and its relation to knowledge already stored in your memory
- Mnemonic devices — memory aids that help us organize information for encoding

How to study effectively
- Use elaborative rehearsal — link information to other informations / memories to make it more meaningful
- Apply the self-reference effect — make information personally meaningful to you
- Don't forget the forgetting curve — keep studying to prevent storage decay
- Rehearse
- Be aware of interference — study without distractions
- Keep moving — aerobic exercise promotes neurogenesis (growth of new brain cells in the hippocampus)
- Get enough sleep — the brain consolidates memories while sleeping
- Make use of mnemonic devices