**Classical Conditioning 2 (Module)**

**Module: Generalization and Discrimination**

**Subtopic: Stimulus Generalization  
-**classical conditioning of learned responses to a variety of different stimuli occurs through a process called stimulus generalization  
-stimuli similar to CS will often also produce a CR

**Subtopic: The Generalization Gradient  
-**presentation variations of original CS will produce different CRs, depending on similarity to original CS  
-adds flexibility and efficiency to classical conditioning  
-if US is potentially harmful, you will not require separate conditioning experiences to learn relationship  
-instead, will generalize learning to avoid similar CSs that cue potential danger

**Module: Generalization and Extinction**

**Subtopic: Generalization and Extinction  
-**CR can be extinguished by repeatedly resenting the CS in the absence of the US  
-during extinction training, the subject is exposed to the training CS in the absence of the US  
-the largest loss in the strength of the CR is actually for the original CS  
-generalized CR to non-training stimuli is also diminished

**Subtopic: Discrimination Training  
-** the compliment to stimulus generalization is stimulus discrimination  
-restricts the range of the CSs that can elicit a CR  
-discrimination training narrows the range of CSs which can elicit the CR

**Subtopic: The CS+ and the CS-  
-CS+:** stimulus predicts the presence of a US  
-**CS-:** stimulus predicts the *absence* of the US

**Module: Phobias and Therapies**

**Subtopic: Conditioning and Fear  
-Phobia** exaggerated, intense and persistent fear of certain situations, activities, things or people

**Subtopic: Treating Phobias  
-**extinguish the conditioned responses  
-by presenting the Cs repeatedly without the US, the expression of the CR will eventually fade

**Subtopic: Implosive Therapy  
-Implosive Therapy:** an individual with a particular phobia is encouraged to confront the fear CS that evokes their anxiety  
-CS is presented in the absence of the associated US  
**-Systematic Desensitization:** uses a more gradual exposure to the feared CS  
-gradual progression of situations that resemble the phobia itself

**Subtopic: Other Conditioning Therapies  
-**alcohol abuse can be controlled with drug treatment called Antabuse  
-taking with alcohol will cause extreme nausea

**Module: Homeostasis and Compensatory Responses**

**Subtopic: Homeostasis  
-**homeostasis made more efficient through classical conditioning

**Subtopic: Compensatory Responses  
-**after drinking a sugary beverage, blood glucose levels will surge  
-as glucose levels rise, insulin is released into the bloodstream to take up excess glucose to be stored  
-glucose levels are regulated and maintained  
-release of insulin is ex. of a compensatory response- process that counteracts challenge to homeostasis  
-classical conditioning prepares the body for challenges to homeostasis

**Subtopic: Addictions**-drug taking is a cued process, the chemical changed associated with drug administration are signalled by environmental cues  
-cues may include a particular circumstance, time of day, or paraphernalia associated with drug intake  
-over many drug-taking trials, environmental CSs are paired with drug effects and contingency is formed  
-at this point, the mere presentation of the environmental cues will be enough to trigger CRs  
-without the drug, addicts will experience extreme discomfort, pain, and nausea—opposite to the normal drug effect

**Subtopic: Withdrawal and Environmental Specificity  
-**with each use, the drug effects will decrease  
-full expression of drug tolerance usually only observed if taken in familiar drug-taking environment  
-conditioning analysis of drug tolerance suggests this happens because drug tolerance is a reflection of both the UR and CR that counteract the drug effects  
-with each trial, the CR grows in strength  
-by the time the drug user is experienced with taking the drug, the drug effects are countered by the body’s natural, UR to the drub, but also, by the growing CR to the cues that signal the drug effects  
-when addict stops drug-taking, they experience withdrawal syndrome  
-in the presence of the drug, this unopposed CR is expressed as withdrawal

**Subtopic: Overdose  
-**taking the drug in a novel environment means that the drug effects are only countered by the natural UR  
-on this occasion, drug effects are particularly potent and the user is at a greater risk for overdose