Live Lecture Questions

Question 1 1 / 1 point

According to discussion in the live lecture, which of the following best describes how stimulus input affects plasticity in the motor and sensory cortices?

- A) Reduced input from loss of a limb can sometimes lead to “under-sensitization” of motor circuits resulting in decreased sensitivity that spreads from the limb.
- B) Enhanced input from practice of physical skills leads to efficient circuits that require less cortical space.
- ✓ C) Reduced input from loss of limb can sometimes still lead to residual activation of sensory and motor circuits from the limb.
- D) Enhanced input from practice of physical skills can sometimes lead to “over-practice” of motor circuits resulting in measured decreases in performance.

View Feedback

Question 2 1 / 1 point

Your fancy new iPhone has voice recognition software built-in, however you try to look up how to “recognize speech” and it returns a series of oil spill images. What would be the most likely cause of this problem?

- A) The phone has no declarative memory for the word “speech” and cannot search properly.
- B) The phone has no procedural memory for completing a search task.
- ✓ C) Top-down contextual cues are missing, leading to stream segmentation problems.
- D) Bottom-up cues provided by phonemes are missing, leading to stream segmentation problems.

View Feedback

Recall Web Module Questions

Question 3 1 / 1 point

Declarative memory refers to…

- A) Memories that are stored within the hippocampus.
- B) The type of memory still intact in patient H.M. after surgery.
- ✓ C) Memory whose formation begins in the cortex.
- D) Memory associated with everyday experiences and basic motor skills.

View Feedback

Question 4 1 / 1 point

Which of the following best describes the **habituation** of the aplysia's gill withdrawal reflex?

- A) The postsynaptic cell hyperpolarizes, leaving the magnesium block in place and leading to decreased responsiveness of the gill withdrawal reflex.
- B) There are fewer receptors on the membrane of the postsynaptic neuron leading to decreased responsiveness of the gill withdrawal reflex.
- C) The presynaptic neuron vesicles contain less glutamate that can be released, leading to decreased responsiveness of the gill withdrawal reflex.
- ✓ D) There are fewer vesicles fusing to the membrane of the presynaptic neuron leading to decreased responsiveness of the gill withdrawal reflex.

View Feedback

Question 5 1 / 1 point

What was the main side effect that patient H.M suffered from after his medial temporal lobes were removed?

- A) The inability to form new implicit memories.

B) The inability to form new procedural and declarative memories.

C) The inability to perform day-to-day tasks such as household chores.

✔ D) The inability to form new declarative memories.

View Feedback

Question 6 1 / 1 point

According to your knowledge of the hippocampus, which of the following statements is true?

A) The process of forming declarative memories begins here.

B) It is responsible strictly for spatial events.

C) It is the final place of storage for long-term memories.

✔ D) This region demonstrates reward-related activity.

View Feedback

Application Web Module Questions

Question 7 1 / 1 point

Which of the following would **NOT** be an example of long-term potentiation (LTP)?

✔ A) During the first stimulus presentation, only neuron 1 fires, but during the second stimulus presentation, both neuron 1 and 2 fire.

B) The increased expression of AMPA receptors in neuron 2 makes it more sensitive to activity from neuron 1.

C) Synaptic pathway 1 fires at the same time as synaptic pathway 2, and as a result their connection is strengthened.

D) Over time, presynaptic neuron 1 generates a larger response in postsynaptic neuron 2.

View Feedback

Question 8 1 / 1 point

Scientists have recently discovered a new disorder, called infection-itus, in which the magnesium block in the NMDA receptors cannot be removed. What would be one of the observations regarding a patient with this disorder following a series of repeated EPSPs?

- A) There will be an increase in the number of AMPA receptors.
- B) There will be a decrease in the amount of glutamate binding.
- C) There will be a decrease in the number of NMDA receptors.
- D) There will be an increase in the amount of post-synaptic sodium.

Question 9 1 / 1 point

Hornby has a rare disease that lowers the amount of glutamate in his neurons, interfering with LTP. Which of the following treatments would likely lead to the introduction of new AMPA receptors in the post-synaptic neuron?

- A) Adding calcium to the post-synaptic neuron.
- B) Removing the magnesium from the NMDA receptors.
- C) Adding sodium to the extracellular synapse.
- D) Removing sodium from the post-synaptic neuron.

View Feedback

Question 10 1 / 1 point

A study on the brain activity of manatees has shown that those raised in the wild (with a diverse and broad environment) seem to have a richer neural network than those raised in captivity (with a simple and limited environment). What would be the most likely explanation for this finding?

A) Manatees raised in captivity are exposed to less stressors than those in the wild, leading to the formation of less synaptic connections.

B) Due to a less complex environment, manatees raised in captivity do not undergo neural plasticity.

✔ C) Manatees raised in the wild have a more complex environment to engage, which leads to the creation of more synaptic connections.

D) Manatees raised in captivity are less likely to engage in Hebbian learning.

View Feedback

Live Lecture Questions

Question 1 1 / 1 point

Information about objects that are to the right of a fixation point fall on the _____ side of the retina and is sent through the primary visual pathway to the _____ side of V1.

A) Right; Right

B) Right; Left

✔ C) Left; Left

D) Left; Right

View Feedback

Question 2 1 / 1 point

Sandra comes to your office after experiencing serious problems with her vision. Both of her eyes are functioning appropriately, but an examination reveals that she has extensive damage to her optic chiasm. Which of the following descriptions best fits Sandra's visual function?

A) Sandra's secondary visual pathway will be damaged, leading to blindness. However, her primary visual pathway will remain intact, and she will demonstrate blindsight.

✓ B) Sandra's primary and secondary visual pathways will be damaged leading to blindness and no blindsight.

C) Sandra's secondary visual pathway will remain intact, so she will be capable of blindsight. However, her primary visual pathway will be damaged leading to blindness.

D) Sandra's primary and secondary pathways will be unaffected by damage to the optic chiasm, so she would have normal visual function.

View Feedback

Recall Web Module Questions

Question 3 1 / 1 point

Which statement regarding the retinal layers is correct?

A) The retinal pigment epithelium provides necessary nutrients to the ganglion cells.

✓ B) Ganglion cells are the first retinal layer light passes through, and they directly transmit information to the optic nerve.

C) Bipolar cells convert the original light impulse into an electrical neuronal signal.

D) Information from one photoreceptor is expanded to multiple ganglion cells, which allows for extensive processing to be done in the retina.

View Feedback

Question 4 1 / 1 point

Which of the following is most characteristic of an 18-month old child's visual capabilities?

✓ A) They are able to focus similarly to adults but their visual acuity is underdeveloped.

B) They are able to focus similarly to adults and their visual acuity is fully developed.

C) They are unable to focus adequately but their visual acuity is fully developed.

D) They are unable to focus adequately and their visual acuity is underdeveloped.

View Feedback

Question 5 1 / 1 point

In a dark environment, which type of vertebrate with big eyes would be most suited to survive as prey?

A) Frontward directed eyes and high acuity.

B) Frontward directed eyes and low acuity.

C) Laterally directed eyes and high acuity.

✓ D) Laterally directed eyes and low acuity.

View Feedback

Question 6 1 / 1 point

Based on your knowledge of photoreceptors, which of the following statements is correct?

A) Rods would provide the greatest colour perception at night under dim light conditions.

✓ B) Visual acuity decreases substantially at night due to poor functioning of cones in dim light conditions.

C) The high concentration of rods in the fovea contributes to its superior acuity.

D) The larger number of cones than rods in the eye provides humans with exceptional acuity.

View Feedback

Application Web Module Questions

Question 7 1 / 1 point

An alien species has a fovea comprised entirely of rods, with cones found in increased concentrations in the periphery of the retina. Which of the following statements is correct?

- A) To identify colour in dim light conditions, the alien should move its eyes to focus the image on its fovea.
- B) Like the human retina, the alien will have the highest acuity in the fovea compared to the periphery.
- C) To focus upon the details of an image the alien should move its eyes so the image falls on its fovea.
- ✔ D) To see something most clearly in dim light, the alien should move its eyes to focus the image on its fovea.

View Feedback

Question 8 1 / 1 point

Anita is examining the anatomy of the eye of a newly discovered species of fish. She notes that the eye contains all of the same features as those found in the human eye, except that it does not contain an iris and the eyes are laterally directed. Which of the following would this species most likely **NOT** be able to do?

- A) Detect differences in colour of approaching predators.
- ✔ B) Adapt to changes in incoming light to allow more or less light to hit the retina.
- C) Change the focus on the image of an object depending on how close or far away it is.
- D) Detect and respond quickly to a predators approaching from a variety of different angles.

View Feedback

Question 9 1 / 1 point

Francois is presented with a dim light that appears to be faintly purple in colour. In which of the following responses would Francois be correct in his description of the light?

- A) The light consists of a single wavelength that is considered short for humans, and has a small amplitude.

B) The light is pure, and is comprised of light of relatively short wavelengths found at the beginning of the visual spectrum.

✔ C) The light has a small amplitude, is relatively desaturated, and is comprised of one of the highest frequencies that humans are able to see.

D) The light has a small amplitude, is comprised of only a single wavelength, and exists inside the visible spectrum.

View Feedback

Question 10 1 / 1 point

Preston was recently in a sporting accident that resulted in significant damage to his lens. Doctors had to paralyze both Preston's lenses to avoid further damage until a second surgery could be performed. What are the likely effects of having his lenses paralyzed on Preston's vision?

A) Preston is blind, being unable to perceive any of the objects in his surrounding environment.

✔ B) Preston is no longer able to read his favourite book or see his friend across the lecture hall.

C) Preston is not having any issues clearly seeing any objects in his surrounding environment.

D) Preston is experiencing blurriness of all the objects in his surrounding environment.

View Feedback

Live Lecture Questions

Question 1 1 / 1 point

You are conducting an experiment on facial preferences with human male subjects rating attractiveness of female faces. Which of the following predictions would you make regarding the outcome of your experiment?

A) Participants will choose faces with pales complexions, as this is a sign of conservative sun exposure, and indicates lower risk of skin cancers.

B) Participants will likely avoid potential mates whose faces appear red, as these individuals are likely to suffer from high blood pressure.

C) There should be no association between facial colouring and mate-choice preferences.

✔ D) Participants will use facial colour as an indirect marker of estrogen production.

View Feedback

Question 2 1 / 1 point

According to the Opponent-Process Theory, the ability to see the colour yellow is a result of _____ of Green(-)/Red(+)ganglion cells and _____ of Blue(-)/Yellow(+) ganglion cells.

✔ A) Cancellation; Excitation.

B) Inhibition; Excitation.

C) Cancellation; Inhibition.

D) Inhibition; Inhibition.

View Feedback

Recall Web Module Questions

Question 3 1 / 1 point

Which of the following is **NOT** one of the findings from visual cliff experiments looking at whether fear of heights is innate or learned?

A) Non-human species of animals that begin walking right after birth show a fear of the deep side of the visual cliff.

B) Infants too young to crawl show a curiosity toward the deep side of the visual cliff rather than fear.

C) Infants who are too young to have begun crawling show fear when exposed to the deep side of the visual cliff.

D) Infants who have experience crawling show less fear of the visual cliff than infants of the same age with no experience crawling.

View Feedback

Question 4 1 / 1 point

Which of the following is **true** regarding Trichromatic Theory?

A) It does not easily explain why it is possible to imagine a blue-green colour but not a red-green colour.

B) It explains colour processing in the retina and ganglion cells, but not within the visual processing areas of the brain.

C) It proposes that each cone contains a photopigment that is only responsive to one of the 3 primary colours.

D) It does not fit with the process of coloured lights adding their dominant colour to the mixture.

View Feedback

Question 5 0 / 1 point

When considering depth perception, which of the following is correct?

A) Relative size is equally useful when dealing with familiar and unfamiliar objects.

B) Front facing eyes experience slightly different visual scenes.

C) Accommodation is a useful monocular cue up to approximately 30 feet.

D) Infants without crawling experience do not display depth perception.

View Feedback

(Both options are Correct; this is an error)

Question 6 1 / 1 point

Which of the following is **CORRECT** regarding the situations under which humans use particular visual cues?

- A) Retinal disparity works best for objects that are at a distance greater than 30 feet.
- ✓ B) Shading works best when the light source is coming from above or below the object.
- C) Texture works best when there are a variety of different textures in a scene.
- D) Elevation works best when there are many different heights in the visual scene.

View Feedback

Question 7 1 / 1 point

Maria is going for a jog and notices that the trees ahead of her seem to get larger and larger the closer she gets, but the skyscrapers farther in the distance never seem to change in size. She also notices that even though some of the skyscrapers partially block other skyscrapers, she is still able to perceive them as separate buildings. Which two visual cues is Maria relying on?

- A) Motion parallax and closure.
- B) Optic flow and interposition.
- ✓ C) Optic flow and closure.
- D) Motion parallax and interposition.

View Feedback

Question 8 0 / 1 point

Nadeem is a 7-year old boy whose parents have been noticing some unusual behaviour. If Nadeem has **deuteranopia**, which of the following is most likely the behaviourNadeem's parents have been noticing?

A) Nadeem compliments his mother's red sweater as looking "beautiful like the green leaves".

B) Nadeem picks blue and yellow flowers for his sister and says that they look like the ocean.

C) Nadeem is having trouble reading a sign at the front of his classroom written in blue writing on a white board.

D) Nadeem chooses only the red appleswhen asked to get the green apples from the kitchen.

View Feedback

Question 9 1 / 1 point

Alesseis sitting in the front passenger seat of her mother's car on the way to visit her grandmother. When looking out her window she notices that a bridge 2 kilometers away seems to be remaining the same size while the bushes at the side of the road seem to rapidly increase in size. She is also able to correctly identify the truck in front of them as being approximately 500 feet ahead of them. Which depth cues is Alesse most likely using?

A) Convergence and Motion Parallax.

B) Accommodation and Optic Flow.

C) Optic Flow and Relative Size.

D) Motion Parallax and Retinal Disparity.

View Feedback

Question 10 1 / 1 point

If the receptive field of a ganglion cell responds in an opponent fashion in which it is excited if blue strikes the middle or yellow strikes the surround, which of the following would produce the weakest response?

A) Yellow strikes both the middle and the surround.

B) Blue strikes both the middle and the surround.

C) Yellow strikes the middle and blue strikes the surround.

D) Blue strikes the middle and yellow strikes the surround.

View Feedback

Live Lecture Questions

Question 1 1 / 1 point

An experiment has been conducted where participants must discriminate faces based on the top halves of faces, while ignoring the bottom halves. What is the correct combination of expected results and the likely type of face processing that is involved?

A) When faces are misaligned participants have difficulty differentiating the faces, as compared with situations when faces are aligned, suggesting configural face processing.

B) When faces are misaligned participants have difficulty differentiating the faces, as compared with situations when faces are aligned, suggesting featural face processing.

C) When faces are aligned participants have difficulty differentiating the faces, as compared with situations when faces are misaligned, suggesting featural face processing.

✔ D) When faces are aligned participants have difficulty differentiating the faces, as compared with situations when faces are misaligned, suggesting configural face processing.

View Feedback

Question 2 1 / 1 point

Which of the following is *false* regarding how newborn babies process faces?

✔ A) Newborns can readily extract detailed information from facial features such as the eyes.

B) Newborns prefer faces to inverted faces.

C) Newborn face preferences are similar to those demonstrated by eye-tracking later in infancy.

D) Newborns show a preference for faces over non-face stimuli.

View Feedback

Question 3 1 / 1 point

Which of the following is **TRUE** regarding size constancy of an object?

- A) The size is perceived as the same whether it is near or far because the image on the retina increases for all objects that are far away in the scene.
- ✓ B) The size is perceived as the same whether it is near or far because the image on the retina decreases for all objects that are far away in the scene.
- C) The size is perceived as the same whether it is near or far because the image on the retina is the same shape for both near and far objects
- D) The size is perceived as the same whether it is near or far because the image on the retina is the same size for both near and far objects.

View Feedback

Question 4 1 / 1 point

Which of the following correctly describes a Gestalt Principle?

- A) The principle of common fate allows objects that are used for similar purposes to be grouped together.
- B) The principle of continuity says that people tend to perceive shapes that have gaps in them as a single continuous shape.
- ✓ C) The principle of similarity says that objects sharing physical properties tend to be grouped together.
- D) The principle of proximity says that shapes located close together in the visual field are processed in nearby areas of the visual cortex.

View Feedback

Question 5 1 / 1 point

Which of the following is most correct regarding **object recognition theories**?

- ✔ A) Prototype theory is more flexible than template theory, as it does not require exactly the same prior experiences with that object.
- B) Geon theory suggests that individuals have hundreds of geometrical shapes stores in memory that can combine to form objects.
- C) Template theory compares each new experience with a person to the most typical appearance of every person.
- D) Geon theory is supported by objects that consist of distinguishable geons such as ice cream cones and faces.

View Feedback

Question 6 1 / 1 point

According to the form perception web module, which of the following statements is correct?

- A) Location constancy is the ability of the brain to adjust for changes in perspective.
- ✔ B) Size constancy is the ability of the brain to adjust for changes in distance.
- C) Shape constancy is the ability of the brain to perceive changes in the shapes of objects.
- D) Colour constancy is the ability of the brain to adjust for changes in amplitude.

View Feedback

Application Web Module Questions

Question 7 1 / 1 point

In which of the following scenarios would the Gestalt principle of similarity be utilized?

- A) A stampeding heard of bison is grouped separately from a herd that is not partaking in this particular stampede.

B) At a car and truck show, automobiles are grouped together based on how close they are to other automobiles in the show.

C) Basketballs are collected in the same baskets as soccer balls and are grouped separately from baskets further away.

✔ D) In a shop, white roses and white lilies are priced the same and found next to red roses and red lilies whose price differs from the white flowers.

View Feedback

Question 8 1 / 1 point

Constantine is participating in a study where he is presented with pairs of objects and asked whether they are the same or different. In one trial, Constantine is presented with a yellow hat measuring 10 inches and viewed from the front. The next image is a yellow hat measuring 10 inches viewed from the side but further away from Constantine. What is Constantine's most likely response if he is unable to use perceptual constancies and which of the perceptual constancies did he use?

A) He is likely to say the objects are the same, using the size and shape perceptual constancies.

B) He is likely to say the objects are the same, using the shape and location perceptual constancies.

C) He is likely to say the objects are different, using the shape and location perceptual constancies.

✔ D) He is likely to say the objects are different, using the size and shape perceptual constancies.

View Feedback

Question 9 1 / 1 point

Xinri is staring intently at a school bus, trying to recognize what it is. Which of the following properly describes one of the theories of object recognition that Xinri may have employed to identify the bus?

✔ A) Xinri identified individually the rectangular body and the circular wheels as geons, and combined them in such a way to fit the mental image of a bus.

B) Xinri recalled a prior experience in which she saw the same bus, and she is able to match the current bus to her prior experience using the prototype theory.

C) Xinri used top-down processing from the stimulus to infer that the bright yellow paint and the 4 wheels were signs that the vehicle was a school bus.

D) Xinri used bottom-up processing from her expectations to infer that the object was a school bus based on her standing at a school, waiting for a ride home.

View Feedback

Question 10 0 / 1 point

Which of the following is **NOT** an example of top-down processing?

A) Katrina is more likely to categorize an object as a car if it has has wheels than if it does not have wheels.

B) Eric has just watched a commercial about retirement homes, and sees the face of an old woman rather than a young woman in an ambiguous figure.

C) Wendy is better able to understand a word that is written in messy handwriting when she reads the whole sentence rather than looks at the word alone.

D) Armando believes people are more likely to own a dog as a pet than a cat, so when he sees an animal in front of a house down the street he perceives it to be a dog.

View Feedback

Live Lecture Questions

Question 1 1 / 1 point

Research suggests that infants can process musical scales from any culture, but as they age and experience music related to their own culture, the ability to process foreign musical structures is lost. This is due a phenomenon called:

- ✔ (A) Perceptual Narrowing.
- ( ) B) Perceptual Pruning.
- ( ) C) Tympanic Leveraging.
- ( ) D) Prosocial Behaviour.

View Feedback

Question 2 1 / 1 point

You're driving down the road with your new friend Nancy when you decide to turn on the radio. After a few minutes, Nancy turns the radio off again, claiming that she can't stand to listen any longer. You decide to test her to determine is she is suffering from amusia. Which of the following pieces of evidence would be the strongest basis for this diagnosis?

- ( ) A) Nancy is unable to perceive rhythmic patterns that might be present in musical pieces.
- ✔ (B) Nancy is unable to determine the direction of change, given a musical interval.
- ( ) C) Nancy is unable to sing her favourite songs in the appropriate keys.
- ( ) D) Nancy is unable to determine whether two notes of different frequencies are different.

View Feedback

Recall Web Module Questions

Question 3 1 / 1 point

According to what you know about the localization of sound as presented in the web modules, which of the following statements is correct.

- ( ) A) Interaural time difference is useful for localizing sound at a far distance.
- ( ) B) Pinna cues help to localize sound and are the same in all humans.
- ( ) C) Sound is localized easiest when the source is directly in front of you.

✔ ◉ D) Turing your head may help to localize sound directly behind you.

View Feedback

Question 4 1 / 1 point

Which of the following statements about music perception is **incorrect**?

○ A) The brain structure of musicians has been documented to differ from non-musicians.

○ B) 2-3 month old infants can detect changes in the rate of music being played.

✔ ◉ C) Changes in cortical representations in musicians are due to the growth of new synapses.

○ D) Male birds are genetically predisposed to having a larger HVC than females.

View Feedback

Question 5 1 / 1 point

Which of the following correctly describes a segment of the auditory pathway?

✔ ◉ A) Inner hair cells do not have a one-to-one connection with afferent fibers but rather connect to a multitude of fibers.

○ B) Alternating bands of densely packed and less densely packed air particles interact with the eardrum in the middle ear.

○ C) The three ossicles are responsible for amplifying the initial sound wave before the sound signal is passed to the round window.

○ D) The ear canal widens as it approaches the eardrum to amplify the sound stimulus before reaching the middle ear.

View Feedback

Question 6 0 / 1 point

Which of the following best describes the component of the auditory pathway from hair cell receptors to the auditory cortex?

	A)	Inner hair cells are thicker and fewer in number than outer hair cells, so they are less influential in auditory processing.
	B)	The cochlear nucleus can send signals to the cochlear nerve, which transfers EPSPs to either the dorsal or ventral stream.
✗	C)	High frequency sounds processed near the oval window will be represented at the opposite end of the auditory cortex from the low frequency sounds.
➡	D)	Neighbouring regions of hair cells send information along the cochlear nerve to neighbouring regions of the auditory cortex.

View Feedback

This is another quiz error. BOTH options are correct.

Application Web Module Questions

Question 7 1 / 1 point

Which of the following manipulations would NOT inhibit the amplification of sounds waves in the auditory pathway?

	A)	Ear canals that grow wider as they approach the eardrum.
✓	B)	A basilar membrane that is more flexible than normal.
	C)	Fluid in the cochlea that is thicker and resistant to movement.
	D)	Inner hair cells with fewer afferents running along the cochlear nerve.

View Feedback

Question 8 1 / 1 point

Which of the following situations is most likely to occur with damage to the dorsal stream of auditory information?

A) Corrin is unable to utilize differences in purity to determine whether it is the violin or the piano playing the music on the radio.

B) Charlene is unable to utilize differences in amplitude to determine the origin of a comment from one of her students.

C) Seamus is unable to utilize differences in wavelength to determine whether the voice he heard was his sister's or brother's voice.

D) Jamie is unable to utilize differences in sound waves to determine whether a bark originates from the Chihuahua next door or the big Rottweiler down the street.

View Feedback

Question 9 0 / 1 point

An alien species produces offspring whose basilar membranes differ in length and shape. Which of the following offspring would be able to discriminate between the greatest number of frequencies?

A) Offspring with 5 mm basilar membrane that narrowed from the oval window.

B) Offspring with 15 mm basilar membrane that narrowed from the oval window.

C) Offspring with 20 mm basilar membrane that narrowed from the round window.

D) Offspring with 10 mm basilar membrane that narrowed from the round window.

View Feedback

Question 10 1 / 1 point

Gina is a talented musician who has been playing the viola for 10 years. Enrique never learned to play a musical instrument but has recently been taking some music classes to help him with discriminating the pitch of sounds. Which of the following is mostly likely **TRUE**?

A) Gina will respond much differently to tones produced by a piano or a guitar than Enrique.

B) Gina will have a larger planumtemporale and Heschl's gyrus, while Enrique will have a larger Broca's area.

C) Gina will likely have many more neural connections within her auditory cortex than Enrique.

D) Gina will likely have a larger portion of her cortex dedicated to processing sounds from string instruments than Enrique.

View Feedback