

COURSE SLO ASSESSMENT REPORT, SCC

Department: Biology Course: Human Genetics, Biology 177

Year: 2012 Semester: Fall

1) Outcome to be assessed	2) Means of assessment and criteria of success	3) Summary of data collected			4) Analysis of data	5) Plan of action/what to do next
<p>Employ Punnett Squares and pedigree charts to analyze and express transmission modes for and probabilities of inheriting given genetic defects.</p>	<p>Exam questions in both multiple choice and essay form will be given. The questions are ranked according to degree of difficulty with the expectation that the 10% of the students will correctly answer the "A" question (reflecting the typical "A" student), 20% will answer the "B" question correctly, and 70% will answer the "C" question correctly.</p>	<p>Category Pedigree question A</p>	<p>Question Analyze the information on the following pedigree and determine if the trait represented by the pedigree is: a) Y-linked b)X-linked dominant c)mitochondrial d)X-linked recessive e)autosomal recessive This in an X-linked dominant trait.</p>	<p>Data Total # responses 38 # correct responses 25 % correct responses 66%</p>	<p>All data except for the C question regarding punnett squares falls within the expected range. Only 68% of the students answered this question correctly relative to the expected 70%. The results indicate some difficulty in students identifying the trait that was inherited via mitochondrial DNA.</p>	
		<p>B question</p>	<p>For the following pedigree, indicated the mode of transmission for the trait. a) Y-linked b) mitochondrial c) autosomal dominant d) autosomal recessive e) X-linked recessive The trait was mitochondrial</p>	<p># correct responses 18 % correct responses 47%</p>		
		<p>C question</p>	<p>Based on the pedigree chart given below, identify the following giving a complete answer. Generation III, relationship between #5 and #6. Monozygotic female twins.</p>	<p># correct responses 34 % correct responses 89%</p>		

		<p>Punnett square Question A = 100% correct response for all parts of the question.</p>	<p><u>Draw</u> a dihybrid Punnett Square for the following mating: An individual that is heterozygous for freckles (dominant) and cannot roll their tongue in a “U”, mates with an individual who is homozygous dominant for freckles and is heterozygous for tongue rolling (dominant). 1) Indicate the phenotypic ratio for any possible offspring, and 2) indicate the ratio of offspring that are expected to be heterozygous for freckles and recessive for the tongue rolling trait.</p>	<p><u>Total # responses</u> 38 <u># correct responses</u> 29 <u>% correct responses</u> 76%</p>		
		<p>Question B</p>	<p>In cats, black fur color is caused by an X-linked allele; the other allele at this locus causes orange color. The heterozygote is tortoiseshell. What kinds of offspring would you expect from the cross of a black female and an orange male? A) Tortoiseshell females; tortoiseshell males B) Black females; orange males C) Orange females; orange males D) Tortoiseshell females; black males E) Orange females; black males</p>	<p><u># correct responses</u> 33 <u>% correct responses</u> 87%</p>		
		<p>Question C</p>	<p>A man with type B blood (his mother had type O) has a child with a woman who has type AB blood. What is the probability that the child will have the same genotype as its father? a) 0 b)25% c)75% d)50% e) 100%</p>	<p><u># correct responses</u> 26 <u>% correct responses</u> 68%</p>		