

COURSE SLO ASSESSMENT REPORT, SCC

Department: Biology Course: Human Genetics, Biology 177

Year: 2009 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
Employ Punnett Squares and pedigree charts to analyze and express transmission modes for and probabilities of inheriting given genetic defects.	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.	Category Pedigree question A	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 is an X-linked recessive trait.	Data Total # responses 29 # correct responses 17 % correct responses 59%		
		B question	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	Total # responses 29 # correct responses 23 % correct responses 79%		
		C question	Based on the pedigree chart given below, identify the following giving a complete answer. Generation III, relationship between #5 and #6. Monozygotic female twins.	Total # responses 29 # correct responses 27 % correct		

				<u>responses</u> 93%		
	Punnett square Question A = 100% correct response for all parts of the question.	<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.		<u>Total # responses</u> 29 <u># correct responses</u> 9 <u>% correct responses</u> 23%		
	Question B	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		<u>Total # responses</u> 29 <u># correct responses</u> 21 <u>% correct responses</u> 72%		
	Question C	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%		<u>Total # responses</u> 29 <u># correct responses</u> 26 <u>% correct responses</u> 90%		