MCB 142 Discussion

Hana Lee

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GSI: Hana Lee
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Section meetings: Tuesday 1-2 PM or Friday 3-4 PM, 2030 VLSB
Office hour: (tentative) Fridays 4-5 PM, TBD

1 Introduction

Welcome to MCB 142 discussion! The purpose of this section is:

- to review topics from lecture in greater depth, particularly material that you found difficult or confusing

- to practice problem-solving and help prepare you for the exams

- to assess how well you understand the principles covered in lecture through quizzes

I will do my best to gear each week's discussion to your needs and interests. If there is a topic that you would like me to cover in section, please let me know! I would also like our class discussions to be as interactive as possible, so feel free to ask questions at any time.

2 Section Policies

2.1 Handouts

All section handouts will be made available on the course website after the week's section.

2.2 Quizzes

There will be a total of five quizzes, which I will be grading. All quizzes will be given at the beginning of section, so please try to arrive on time. There will be no makeup quizzes. If you know you will miss a quiz in advance, notify me as soon as possible to make arrangements to take the quiz in another section that week. I will only accept a valid excuse for missing a quiz (e.g. illness,

family emergency, interviews). We will not be regrading quizzes except in cases of addition errors. Remember that your lowest quiz grade will be dropped from your final grade.

2.3 Participation

Part of your final grade in this course will depend on your participation in section. Participation begins with showing up to section. Half of your participation grade will be determined from your attendance alone. At the beginning of each section, I will pass around a sign-in sheet. (If you know in advance that you will be missing a section, please let me know by email, and do your best to attend another section for that week.) The rest of your participation grade will depend on your contribution to class discussions.

2.4 Contact

I will generally answer emails within 24 hours of receiving them but cannot guarantee a quicker response. I may be slower to respond on weekends. If you can't make it to my office hour, you may email me to arrange another meeting time. I will also schedule extra office hours before the exams.

3 Mendel's Laws

1. What is the Law of Segregation?

2. What is the Law of Independent Assortment?

3. Use a Punnett Square to show the F2 offspring resulting from the following parental cross:

$$AA \ BB \ x \ aa \ bb$$

4. Calculate the probabilities of all possible offspring resulting from the following parental crosses:

$$Aa \ Bb \ Cc \ Dd \ x \ aa \ bb \ cc \ dd$$
$$aa \ bb \ cc \ dd \ x \ AA \ BB \ CC \ DD$$
$$Aa \ Bb \ Cc \ Dd \ x \ Aa \ Bb \ Cc \ Dd$$
$$aa \ bb \ cc \ dd \ x \ aa \ bb \ cc \ dd$$

5. What stage in meiosis is responsible for segregation and independent assortment?

6. What is the caveat to independent assortment? What needs to be true in order for two genes to segregate independently?