

Essay plan review

(Please remind me to record if I forget)

17 October 2022

Taking attendance

PC-IJ-KY

Population genetics lab assignment

- ▶ Due: 21 OCT 2022 at
23:59 UK time
- ▶ 25% of total grade
- ▶ Follow the online lab
- ▶ Turn in on Canvas Quizzes
- ▶ Emailed Tables 3 & 4

Short answer essay plans

- ▶ Received 82 total
- ▶ Feedback on Canvas
- ▶ Anonymous marking
- ▶ Use student number

General positive feedback

- ▶ Well-structured essay plans
- ▶ Relevant examples
- ▶ Good use of Coyne (2010)
- ▶ Good introductions and conclusions

¹Coyne, J. A. (2010). Why evolution is true. Oxford University Press.

Areas for improvement

1. Linking examples to question
2. Use of broader literature
3. Understanding the question
4. Avoiding unnecessary detail

1. Linking examples to question

What is some of the important evidence for the theory that life on earth has arisen through Darwinian evolution rather than conscious design?

1. Linking examples to question

What is some of the important evidence for the theory that life on earth has arisen through Darwinian evolution rather than conscious design?

- ▶ Examples should link back to the question

1. Linking examples to question

What is some of the important evidence for the theory that life on earth has arisen through Darwinian evolution rather than conscious design?

- ▶ Examples should link back to the question
- ▶ Why does example support Darwinian evolution?

1. Linking examples to question

What is some of the important evidence for the theory that life on earth has arisen through Darwinian evolution rather than conscious design?

- ▶ Examples should link back to the question
- ▶ Why does example support Darwinian evolution?
- ▶ Why does example not support conscious design?

1. Linking examples to question

Main body paragraphs

► Example or evidence 1

- ▶ Introduce and explain example (with references)
- ▶ Explain why supports Darwinian evolution
- ▶ Explain why does not support conscious design

► Example or evidence 2

- ▶ Introduce and explain example (with references)
- ▶ Explain why supports Darwinian evolution
- ▶ Explain why does not support conscious design

2. Use of the broader literature

► Textbooks, lectures, and websites

¹Coyne, J. A. (2010). Why evolution is true. Oxford University Press.

²Dyer, R. J., & Nason, J. D. (2004). Population graphs: the graph theoretic shape of genetic structure. *Molecular Ecology*, 13(7), 1713-1727.

³Benesh, D. P., Chubb, J. C., & Parker, G. A. (2022). Adaptive division of growth and development between hosts in helminths with two-host life cycles. *Evolution*, 76(9), 1971-1985.

2. Use of the broader literature

- ▶ Textbooks, lectures, and websites
- ▶ Peer-reviewed sources are strongest
 - ▶ Primary source written by researchers
 - ▶ Extensive checks of scientific rigor
 - ▶ Find articles on [Google Scholar](#)

¹Coyne, J. A. (2010). Why evolution is true. Oxford University Press.

²Dyer, R. J., & Nason, J. D. (2004). Population graphs: the graph theoretic shape of genetic structure. *Molecular Ecology*, 13(7), 1713-1727.

³Benesh, D. P., Chubb, J. C., & Parker, G. A. (2022). Adaptive division of growth and development between hosts in helminths with two-host life cycles. *Evolution*, 76(9), 1971-1985.

2. Use of the broader literature

- ▶ Textbooks, lectures, and websites
- ▶ Peer-reviewed sources are strongest
 - ▶ Primary source written by researchers
 - ▶ Extensive checks of scientific rigor
 - ▶ Find articles on [Google Scholar](#)
- ▶ Citing sources in an essay
 - ▶ In text (Coyne 2010; Dyer & Nason 2004; Benesh et al. 2022)
 - ▶ [Google Scholar](#) is again helpful

¹Coyne, J. A. (2010). Why evolution is true. Oxford University Press.

²Dyer, R. J., & Nason, J. D. (2004). Population graphs: the graph theoretic shape of genetic structure. *Molecular Ecology*, 13(7), 1713-1727.

³Benesh, D. P., Chubb, J. C., & Parker, G. A. (2022). Adaptive division of growth and development between hosts in helminths with two-host life cycles. *Evolution*, 76(9), 1971-1985.

3. Understanding the question

What is some of the important evidence for the theory that life on earth has arisen through Darwinian evolution rather than conscious design?

► Demonstrate an understanding in the introduction

3. Understanding the question

What is some of the important evidence for the theory that life on earth has arisen through Darwinian evolution rather than conscious design?

- ▶ Demonstrate an understanding in the introduction
- ▶ Explain or define Darwinian evolution

3. Understanding the question

What is some of the important evidence for the theory that life on earth has arisen through Darwinian evolution rather than conscious design?

- ▶ Demonstrate an understanding in the introduction
- ▶ Explain or define Darwinian evolution
- ▶ Explain or define conscious design

4. Avoiding unnecessary detail

What is some of the important evidence for the theory that life on earth has arisen through Darwinian evolution rather than conscious design? ► 400-600 words

4. Avoiding unnecessary detail

What is some of the important evidence for the theory that life on earth has arisen through Darwinian evolution rather than conscious design?

- ▶ 400-600 words
- ▶ Every sentence should directly or indirectly help answer the question

4. Avoiding unnecessary detail

What is some of the important evidence for the theory that life on earth has arisen through Darwinian evolution rather than conscious design?

- ▶ 400-600 words
- ▶ Every sentence should directly or indirectly help answer the question
- ▶ Write what you want to say, then shorten

What is a short answer essay?

An extended written answer to a **specific** question

- ▶ Approximately 500 words
- ▶ Usually 1-3 paragraphs
- ▶ References not included in word count



What is a short answer essay?

An extended written answer to a **specific** question

- ▶ Approximately 500 words
- ▶ Usually 1-3 paragraphs
- ▶ References not included in word count



The short answer essay format is used in all assignments and the exam (short answer essay journal portfolio)

Example short answer essay question

“In *Improbable Destinies*, Losos describes convergent evolution and also discusses cases where convergence does not appear to have happened (e.g. Chapter 3). Describe why convergent evolution does not always occur.”

How to approach short answer essay questions

1. **Read the question** several times to understand what the question is asking
2. **Read and revise relevant literature**, including lectures, text books, **scientific papers**
3. **Summarise your notes** from step 2 and organise them to synthesise what you have learned
4. **Make an essay plan** structuring your answer as a series of ordered bullet points

Questions on short answer essays or population genetics?