Question 1
What do you understand about teaching in Biology in Context?

Issue based
Biology taught in context captures everyone, more bits of the brain

- Can’t conceptualise it not in context
- Can do it out of context, but it is more meaningful to have a starting place from where they are to where they are moving towards

Group students that have pure love of learning

Rearrange content to put it in a bigger picture

Context – provide a meaning

- Problem based
- Disease

Theme based teaching – cover subject/content areas

Why you need to know this

Different content/context

- Metabolism
- Traditional
- Textbooks back it up

Harder/easier
Way they were taught

Name of Unit – if it has context, it is more popular with students

CORE theme based lecture once per week

Research should determine
Context vs Content

Tertiary institution/professional dynamic research
Question 2
Should teaching Biology in context only for non-biology majors?

Depends on context :)

No
Often same content, just presented differently
Who/how “chooses” issues
Current media stories
Who looks to the future

Yes
Good idea, problem – not whole course

Need a balance

Different cohorts → is it relevant for Australian universities?
Hooked to get in → something they had heard of
Foster interest so that students realise they are interested,
(ie context is not just what students are already interested in, but foster, create new interest)

Service teaching = non-majors

Maybe other way around?

If Def major: keen to find content anyway, concept more important (come from context)

Context used to drive interest

Context used to drive conceptual learning (rather than just naming facts)

Context can encourage understanding that values are important

Ethics

Also diversity of values and perspectives (i.e. value depends on context, changes with context

Context = different values within class
Creates interest → fosters learning

Mixture for majors – a balance

Values
Question 3

Think of approximately three major barriers that may stop you teaching Biology in Context

3 major barriers

- Traditional attitudes of staff
  - Timetabling issues
  - Rooming – computer labs, labs, tute rooms
- Resources
  - time
  - money
  - Student numbers
- Transference of content if conceptual learning
- Skills
- Staff

Staff – different attitudes, content important
  Attitude to change
Resources
  Time
  Money
Introducing a new mode of learning
Student apprehension, resistance
Issue if not all units are the same
Change from secondary school, learning through university

Progression

If own teaching – then there are no real barriers

External stakeholders
Staff - Traditional, hierarchical teaching
Existing framework
Resources – rooms (can limit)
  IT
  Infrastructure

Fear - at university level
  At individual level
Question 4
Think of approximately three opportunities that currently exist for the teaching of Biology in Context

1. Lectures problem issue based
2. Tailor made topics in biology, e.g. GMO, stem cells, global warning
3. Problem based learning online e.g. racehorses, fragile X
4. Online electronic modules – fit their needs and interests
5. Restructuring – opportunities

Question 5
List the BIG ideas essential in a curriculum for teaching and learning in Biology

Curriculum context
- Cell
- Cell as organisms
- Evolution
- Ecology
- Effects of environment
- Genetics
- Understanding concepts – big picture
- Language of biology
- Applications
- Lab skills
- Fieldwork skills

Generic graduate attributes
- Writing/communication skills
- Numeric skills
- Sustainability of curriculum
- Robust
- Not contingent on staff
Question 6

Think of approximately three main issues for the teaching and learning of Biology in the next five years

What is core?

Datamining – huge excess of information, published research etc.
Ability to filter “important” from “crap”
(so can move into new directions/frontiers in biology)
Discover new information and informed by existing
Scientific/ biology way of thinking/process/ research

How/who decides: what content “disappears”

Beliefs
Fundamentalism
- Potential “challenges” for teaching
- Fences limiting discussion
- Separation of content/learning from beliefs

Inherited
Content culture
Cannot be held by one person
Expansion of biology necessarily requires specialisation

Communication skills
Ethics – embedded within content/context
Internationalisation