Peer Support for pre-arrival: resource & support package for students of the BVM&S degree – PTAS Final Report 2016

Jessie Paterson, Kay Aitchison, Catriona Bell, Gurå Bergkvist, Eoghan Clarkson and Susan Rhind

Students: Charles Keys, Katherine Phillips, Monique Yntema

Introduction

The aim of this project was primarily to expand the successful peer-support VetPAL scheme already in place once students were on programme, to the pre-arrival phase This was carried out through a student-led project where students in the later years of the BVM&S degree co-developed (or repurposed) a range of materials for use by the incoming students. These materials were packaged into a cohesive Learn course that was made available to new students in August 2015 prior to them starting study in September 2015.

Methodology

Three "studentships" were offered over the summer of 2015 to the existing VetPAL leader cohort. These were taken up by three students in their third moving to fourth year of study. Two of the students chose to do their part of the project as their Student Research Component (SRC) project – a nominally 6 week individual project required to be carried out by all BVM&S students while the other student chose to do it as an independent project.

The three students worked on different but connected themes chosen to be particularly applicable to new students to include non-academic and academic content. The non-academic resource included advice on areas such as useful textbooks and equipment, settling into halls and time management. The academic content focussed primarily on the first year "Animal Body 1" course providing introductory and background information for the two main components of the course – cell biology and anatomy & histology with a small part on animal breeds (a topic particularly oversea students' find more difficult) from the "Animal Life & Food Safety 1" course. In all cases the content was designed to give an overview and background to the content rather than core teaching materials. Before release all the content was approved by the relevant course staff.

For each section each student decided on relevant content they wished to include. They then either created materials or sought out relevant existing content (e.g. YouTube videos). New material was created using Articulate Storyline incorporating both narration and self-testing. One student also built a 3-d tool to aid visualisation of a cell and its components. The created assets were then embedded within Learn and released to the incoming students in mid-August 2015, with the resource remaining available to the students throughout the remainder of the programme.

The new students were informed of the package via Facebook and as an item within the newsletters sent out in the weeks running up to the start of the session. These media were chosen as they appeared to be used well by the pre-arrival students.

The project was evaluated through the use of Learn tracking and also via questionnaires sent out to the students at various points during their first year in 2015.

Preliminary Findings/Conclusions

From the Learn tracking, over 90% of the new students had accessed the Learn course before the start of the degree in Sept 2015 and over the academic year students continued to access and make use of the materials (particularly around the main exam period in Feb 2016). The anatomy & histology resources were more used than the cell biology materials. Feedback from the students in the questionnaire showed that many found them useful and no issues relating to access were mentioned.

More detailed analysis of the data is being carried out as part of the students' SRC projects and will be available in the spring of 2017 once their reports have been submitted.

Dissemination

The work has been presented at the following venues:-

- Poster at VetEd Symposium, Glasgow 7-8th July 2016 "Peer Support for pre-arrival at the R(D)SVS: resource & support package for students joining the BVM&S degree" (this poster was also presented at the VMED Forum, R(D)SVS 8th June 2016)
- Presentation at Enhancement Theme Conference, Edinburgh 9th June 2016 "Peer Support in support of transition into veterinary school"
- Presentation at Gearing up for Transitions conference, Edinburgh 2nd March 2016– "Peer Support for pre-arrival: resource & support package for students of the BVM&S degree"

(copies of the poster and presentations are included with the report). Further planned dissemination include the SRC reports as well as an academic paper distilled from these reports.

Future

The project has been an overwhelming success both in terms of the content created and in also enhancing the use of peers in aiding transition into University. After minor changes, the course was released to students starting in September 2016 and uptake and usage by this cohort has been similar to the previous year. For the future it is planned that this resource will be an integral part of the VetPAL scheme with the Leaders being responsible for both the maintenance and creation of materials for the future.



Peer Support for pre-arrival: resource & support package for students of the BVM&S degree

Keys, C.T., Paterson, J. E., Phillips, K., Yntema, M. R(D)SVS, University of Edinburgh

Rationale

- 'Smooth' transition between school and university
- Students often anxious about the differences
- Keen to get started
- Free time between exam results and starting university
- Form basis of an educational research project

An Introduction to Anatomy

Menu An Introduction to Anatomy An Introduction to Anatomy Divisions of Anatomy 1 Divisions of Anatomy 2 Divisions of Anatomy 3 The Language of Anatomy Directional Terminology 1 Directional Terminology 2 Directional Terminology 3 tions Through the Body Sections Through the Body 2 Species Specific Terminology



How did it work?

- Materials planned and designed in summer 2015
- Initially created on PowerPoint off campus, then converted to Articulate Storyline at R(D)SVS
- Launched on student intranet (Learn) in mid-August 2015
- Resource made available to students with unconditional offers
- Not compulsory students free to use as much as they wanted

Reception and feedback

Survey sent out to first years (24

Resource content

- Three main parts:
 - Anatomy and Histology
 - **Cell Biology**
 - Useful general information (contained audio narration) e.g. coping with workload, life in Edinburgh
- Additional short section on livestock breeds
- Student-built materials approved by course organisers
- Some re-use of existing resources \bullet e.g. videos and quizzes
- **Discussion forum**
 - Facebook to be used in future

responses)

- 93% felt they had benefitted from • the Anatomy & Histology resources
- 100% agreed the quizzes were \bullet beneficial to their understanding
- Statistics tracking enabled for Anatomy and Cell Biology sections (provide data for research projects)
 - Approximately 60% students accessed the Anatomy & Histology content since its launch
 - 63% of students accessed the cell biology component

Future of the project

- Hand over to current 'VetPAL' leaders
- More information on first year \bullet accommodation
- Problem/case based approach to cell biology content
- More audio narration
- Re-launch in August 2016 \bullet

Thanks to PTAS for funding



Peer Support in support of transition into veterinary school



Enhancement Themes conference, Thursday 9 June 2016 John McIntyre Conference Centre, Edinburgh





Project

- Student-built materials for students (peer support building on VetPALs – local PALs scheme)
- Content cover:
 - Based mainly on the 2 main courses in 1st year
 - Animal Body 1 (AB1)
 - Cell Biology
 - Histology & Anatomy
 - Animal Life & Food Safety
 - Breeds
 - Useful general information



How did it work?

- Staff members on board:-
 - Course organisers from 2 main courses to "approve" content
- Students (3 projects)
- Platform
 - Learn
- Advertise
 - Admissions via Facebook
 - Part of email newsletter



Tools

- Articulate Storyline
 - Could work on ppt off-site
 - Visit to Edinburgh to create
- Re-use of other materials e.g. videos
- 3D animation Sketchfab
- Discussion Board
- Live mid-August 2015



General Information

Menu

 pre-arrival powerpoint latest Vet Pre-Arrival Resource Welcome to Edinburgh! Learn and EEVeC Compulsory clothing Compulsory equipment Optional purchases Textbooks The most useful books for A... Using textbooks What to expect academically... Animal Body 1 Animal Body 2 Animal Life and Food Safety Professional and Clinical Skills Course delivery Taking notes in lectures Tutorials Practicals Transport to Easter Bush: bus... Alternatively... Student support from the ve... Student support from the ce... Coping with the transition A typical day This is important! Managing your time You're all in the same boat! Settling into halls Life in Edinburgh Clubs and societies Useful links



Starting veterinary medicine at Edinburgh



Resources

Vet Pre-Arrival Resource

Starting as a new vet student at Edinburgh

Charles Keys Fourth year student

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Content selection

- Personal experience
- VetPALs sessions from last year
- Common questions asked at open days/interviews
 - what are the buses to Easter Bush like?
 - how many contact hours per week?
 - how hard is the course?
 - do we need to buy loads of textbooks?
- Social media
- Links to useful booklets on main University site students may not be aware of these



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Starting veterinary medicine at Edinburgh

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Coping with the transition

- University will be a change from school/college!
- Be prepared to adapt or change previous study techniques
- Staff are there to help
 - ask questions after lecture/during practical
 - approachable by email
- Check your emails daily
- Don't compete with others work for the results you need







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Anatomy & Histology

An Introduction to Anatomy

Menu

 An Introduction to Anatomy An Introduction to Anatomy Divisions of Anatomy 1 Divisions of Anatomy 2 Divisions of Anatomy 3 The Language of Anatomy **Directional Terminology 1 Directional Terminology 2 Directional Terminology 3** Sections Through the Body 1 Sections Through the Body 2 Species Specific Terminology Question 1 Ouestion 2 Ouestion 3 Drag & Drop Quiz

Annotate this image by dragging the correct anatomical terms into the empty boxes.

Resources





Deciding on the content

- Picked out the medicine related criteria from the A Level specifications and compared that with the AB1 course outline
 - General lack of anatomy content
 - Very little terminology
- Decided on 4 topics
 - An Introduction to Anatomy
 - Tissues of the Body
 - The Body Systems
 - General Anatomy of the Dog

Snapshot – Tissues of the body

Menu

enhancement themes

> Tissues of the Body Tissues of the Body Connective Tissue 1 Connective Tissue 2 Connective Tissue 3 Connective Tissue 4 Connective Tissue 5 Epithelial Tissue 1 Epithelial Tissue 2 Epithelial Tissue 3 Epithelial Tissue 4 Epithelial Tissue 5 Epithelial Tissue 6 Epithelial Tissue 7 Muscle Tissue 1 Muscle Tissue 2 Muscle Tissue 3 Nervous Tissue 1 Nervous Tissue 2 Basic Types of Neurones Non-neuronal Cells 1 Non-neuronal Cells 2 Non-neuronal Cells 3 Question 1

> > **Question 2**

Ouestion 3

Question 4

Ouestion 5

Question 6 Question 7

Drag and Drop Quiz 1

Drag and Drop Quiz 2

10

Tissues of the Body

Resources

• Groups of muscle fibres are known as <u>fascicles</u> and these are surrounded by loose connective tissue called the <u>perimysium</u>







Reviewing the resources - data trends

- Learn tracking
 - Approximately 60% students accessed the
 Anatomy & Histology content since its launch
 - Highest use was the last 2 weeks of August & first
 2 weeks of September
 - Of the 50 students using the resources in August and September there was an average of 5.4 and 4.8 views per person respectively



Student reflections

- Questionnaire 24 responses
 - 93% felt they had benefitted from the Anatomy & Histology resources
 - 100% agreed the quizzes were beneficial to their understanding
- General consensus from written (including emails) and verbal feedback
 - 'Informative resources that helped consolidate the basics whilst preparing us for AB1'
 - 'Interesting to learn and made it a lot easier to access the course'



Cell Biology





ims & Approach to Cell Biology

- Fill in gaps of previous schooling
- Content selection:
 - Overview of main cell biology topics
 - Cell structure
 - DNA & Genetics
 - Enzymes
 - Embryology introduction
- 3D 'Glass' cell
 - Basic structure to aid visualisation and understanding



Tools

- Articulate storyline presentations
- Links to videos
- Glass cell

Genetic recombination 1 📀

Enabled: Statistics Tracking Genetic recombination is the production of offspring with traits that differ to those found in either parent.

Genetic recombination occurs during meiosis.



Genetic recombination 1 Duration: (6:12) User: khanacademymedicine - Added: 29/01/15 YouTube URL: http://www.youtube.com/watch?v=BinUNmfGn71





- 63% of students accessed the cell biology component
 - 57% of students accessed prior to starting university on the 21st Aug 2015
- Highest access on the launch of the pre-arrival content and just before the start of welcome week (Average views per person = 2.9)
- Approximately 20% of the year have revisited the cell biology content throughout the year



Reflections

- "I found it all very interesting, but found the Welsh A level has definitely left me with a massive gap in my knowledge."
- "I found it a little bit too hard, and found I was having to do a fair bit of extra work. However I think this prepared me for the nature of the degree."
- "I don't think I realised how big a part of my course cell biology was (as there is tons of it), if I'd known I would have revised my cell biology from advanced higher a bit more beforehand, perhaps highlighting that would be of benefit"



Future of the project

- Some tweaks to resources (current creators)
- Make available in Aug 2016
- Future content VetPAL Leader team



University Certificate Veterinary Medical Education (UCVME):-

- UCVME: Training Modular Certificate giving students credit for their involvement in teaching /learning
- More detail in presentation: "Educating future educators: Supporting the journey into Vet School and beyond" (Rhind, Campbell, Noddings Zinola, Hudson)
- 3 students all using some of these activities towards their UCVME (Gearing Up conference, VetPALs, SRC projects)



Contacts

Jessie Paterson, Charles Keys, Katherine Phillips & Monique Yntema Royal (Dick) School of Veterinary Studies, University of Edinburgh

Contact email address: Jessie.Paterson@ed.ac.uk

Thanks to Principal Teaching Award Scheme for funding



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Peer Support for pre-arrival: resource & support package for students of the BVM&S degree

Jessie Paterson, Charles Keys, Katherine Phillips & Monique Yntema, R(D)SVS Contact email address: Jessie.Paterson@ed.ac.uk

Thanks to PTAS for funding

Plan of session

- Introduction why and the how (Jessie)
- What happened
 - Useful information (Charles)
 - Anatomy and Histology (Katherine)
 - Cell Biology (Monique)
- What happens next..... (Jessie)





Why do?

Before arrival students:-

- Often anxious about what the work will be like
 Will they "cope" with the materials
- Keen to get started
- Have a bit of "space" between School & University

VetED conference Bristol 2014

- Poster "An Online Induction Course for Prospective Veterinary Students"
 - Very successful
 - Based largely on re-use of materials





Project

- Student-built materials for students (peer support building on VetPALs)
- Content cover:
 - Based mainly on the 2 main courses in 1st year
 - Animal Body 1 (AB1)
 - Cell Biology
 - Histology & Anatomy
 - Animal Life & Food Safety
 - Breeds
 - Useful general information





How did it work?

- Staff members on board:-
 - Course organisers from 2 main courses to "approve" content
- Students (3 projects)
 - Katherine & Monique "Student Research Component" projects
 - Charles summer project
- Platform
 - Learn
- Advertise
 - Admissions via Facebook
 - Part of email newsletter





Cont.....

Tools:

- Articulate Storyline
 - Could work on ppt off-site
 - Visit to Edinburgh to create
- Re-use of other materials e.g. videos
- 3D animation Sketchfab
- Discussion Board

Live mid-August 2015





What happened

Still evaluating

- Analytics in Learn
 - Tracking activated for all the Cell Biology & Histology and Anatomy materials (folder level and each component)
- Survey
 - During 1st semester





Part 1: Useful Information

Charles Keys





Menu

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Starting as a new vet student at Edinburgh

Charles Keys Fourth year student



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Rationale behind section

- Aim to 'smooth' school to university transition
- A lot of novel things to get used to, e.g.
 - first time away from home
 - new styles of teaching
 - becoming an independent learner
 - making friends and settling in
- Importance of older student's first-hand experiences
- Knowing that another student has been in the same boat!





Content selection

- Personal experience
- VetPALs sessions from last year
- Common questions asked at open days/interviews
 - what are the buses to Easter Bush like?
 - how many contact hours per week?
 - how hard is the course?
 - do we need to buy loads of textbooks?
- Social media
- Links to useful booklets on main University site students may not be aware of these





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Resources

What to expect academically in first year

The Animal Body 1: From Cell to Body Structure

The Animal Body 2: Pathobiology of the Animal Body

Animal Life and Food Safety 1

Professional and Clinical Skills



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 pre-arrival powerpoint latest Vet Pre-Arrival Resource Welcome to Edinburgh! Learn and EEVeC Compulsory clothing Compulsory equipment Optional purchases Textbooks The most useful books for A... Using textbooks What to expect academically... Animal Body 1 Animal Body 2 Animal Life and Food Safety Professional and Clinical Skills Course delivery Taking notes in lectures Tutorials Practicals Transport to Easter Bush: bus... Alternatively... Student support from the ve... Student support from the ce... Coping with the transition A typical day This is important! Managing your time You're all in the same boat! Settling into halls Life in Edinburgh Clubs and societies Useful links



Coping with the transition

- University will be a change from school/college!
- Be prepared to adapt or change previous study techniques
- Staff are there to help
 - ask questions after lecture/during practical
 - approachable by email
- Check your emails daily
- Don't compete with others work for the results you need




Resources

MOST IMPORTANTLY...

ENJOY YOUR TIME AT EDINBURGH! (the time will fly by...)



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Using Articulate Storyline

- Created on Microsoft PowerPoint initially
- Audio narration used for added insight and tips
- Commentary mostly pre-written
- Voice recording software simple to use
- Seeker bar added for viewer convenience
- Some small technical problems with external links on slides





Small extra resource on livestock breeds

- Background knowledge for the Animal Life and Food Safety Course
- International cohort
- Some students have not worked with livestock before
- Resource consists of tips and advice for learning breeds
- Links to existing vet school resource on EEVeC



Menu

livestock breeds powerpoint
 Vet Pre-Arrival Resource
 Learning livestock breeds
 Breeds resource
 Tips for learning breeds (furthe...

Livestock breeds intro





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Vet Pre-Arrival Resource

Introduction to UK Cattle and Sheep Breeds

Charles Keys Fourth year student



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The University of Edinburgh

Can you Identify?

Test your knowledge of breeds and feeds

Welcome

Livestock Small animal

Cattle



This is the cattle section. Here you can:

- Browse cattle breeds
- Take the cattle breed quiz

Privacy & cookies

Designed by Kay Aitchison and Eoghan Clarkson. Powered by WordPress





Search
CATEGORIES
Livestock
Small animal
EASE LOGOUT
Log Out

livestock breeds powerpoint Vet Pre-Arrival Resource Learning livestock breeds Breeds resource Tips for learning breeds (furthe...

Livestock breeds intro

Tips for learning breeds (further down the line...)

- Look at a variety of pictures (not just the ones on the vet school resource) Google Images!
- Quiz each other
- 'Know Your...' book series by Jack Byard very good (~ £5 on Amazon)
 - Cattle, sheep, pigs, horses, dogs, cats etc



For next year

Useful information resource:

- Add more information on 1st year accommodation
 - Contributions from current VetPALS leaders
- Update any out-of-date information
 - Check with course organisers
- Enable statistics tracking on Learn (for interest)

Livestock breeds resource:

Link to extra resources from National Farmer's Union (suggested by ALFS course organiser)





Part 2: Anatomy & Histology

Katherine Phillips



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Why I wanted to be involved

- The apprehensions of university are something we can all relate to
 - Way to ease the transition from school/college to university
 - Continuation of my peer support role (VetPAL leader)
- Way to develop my IT skills
- A good way for me to revise the basics of anatomy & histology
- Helped improve my ability to explain things







- To understand the gaps in knowledge from college to university
- Arranged meetings at my former College
 - Head of Sixth Form
 - Main student concerns about University
 - Opportunities available e.g. visits, guest speakers
 - Science staff
 - Current specifications





Deciding on the content

- Picked out the medicine related criteria from the A Level specifications and compared that with the AB1 course outline
 - General lack of anatomy content
 - Very little terminology
- Decided on 4 topics
 - An Introduction to Anatomy
 - Tissues of the Body
 - The Body Systems
 - General Anatomy of the Dog





Creating the resources

- Studied my AB1 notes
- Selected relevant images / sketched my own
- Created rough first drafts in Microsoft PowerPoint
- Transferred them to Articulate Storyline using the media room computers
 - Very useful and professional looking software
 - Enabled the addition of interactive quizzes
 - Allows students to continue where they left off / easily navigate to the required section





Creating the resources (continued)

- Met with Dr Bergkvist (AB1 course organiser)
 - Proof read the resources
 - Checked for copyright
 - Added in links to her videos
- Uploaded the materials to Learn
 - Enabled Learn tracking on Anatomy & Histology folder and individual presentations
- Pre-arrival course went live on August 20th 2015
 - Advertised on Facebook / in newsletter





Snapshot – An introduction to anatomy

Menu An Introduction to Anatomy Resources An Introduction to Anatomy An Introduction to Anatomy Divisions of Anatomy 1 Annotate this image by dragging the correct Divisions of Anatomy 2 Divisions of Anatomy 3 anatomical terms into the empty boxes. The Language of Anatomy **Directional Terminology 1 Directional Terminology 2 Directional Terminology 3** Sections Through the Body 1 Sections Through the Body 2 Species Specific Terminology Question 1 Ouestion 2 Question 3 DISTAL Drag & Drop Quiz PROXIMAL DORSAL PLANE CRANIAL ROSTRAL CAUDAL TRANSVERSE PLANE ROSLN The Royal (Dick) School of Veterinary Studies SUBMIT





Snapshot – Tissues of the body

Menu

 Tissues of the Body Tissues of the Body Connective Tissue 1

> Connective Tissue 2 Connective Tissue 3

> Connective Tissue 4 Connective Tissue 5

Epithelial Tissue 1 Epithelial Tissue 2

Epithelial Tissue 3

Epithelial Tissue 4 Epithelial Tissue 5 Epithelial Tissue 6

Epithelial Tissue 7 Muscle Tissue 1 Muscle Tissue 2

Muscle Tissue 3

Nervous Tissue 1 Nervous Tissue 2

Basic Types of Neurones Non-neuronal Cells 1

Non-neuronal Cells 2 Non-neuronal Cells 3

Question 1 Question 2

Ouestion 3

Question 4

Ouestion 5

Question 6 Question 7

Drag and Drop Quiz 1

Drag and Drop Quiz 2

Tissues of the Body

Resources

 Groups of muscle fibres are known as <u>fascicles</u> and these are surrounded by loose connective tissue called the <u>perimysium</u>







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Snapshot – The body systems





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Snapshot – General anatomy of the dog



Reviewing the resources – data trends

- Learn tracking
 - Approximately 60% students accessed the Anatomy & Histology content since its launch
 - Highest use was the last 2 weeks of August & first 2 weeks of September
 - Of the 50 students using the resources in August and September there was an average of 5.4 and 4.8 views per person respectively



Reviewing the resources – data trends cont'd

Distribution of students using the Anatomy & Histology resources from their launch on August 20th to the final AB1 exam on February 12th







Student reflections

- Questionnaire 24 responses
 - 93% felt they had benefitted from the Anatomy & Histology resources
 - 100% agreed the quizzes were beneficial to their understanding
- General consensus from written (including emails) and verbal feedback
 - 'Informative resources that helped consolidate the basics whilst preparing us for AB1'
 - 'Interesting to learn and made it a lot easier to access the course'





What's next?

- Awaiting approval on second questionnaire
 - Did they use the resources for revision?
 - Having completed AB1, do they feel they've benefited from having the resources?
- Student Research Component (in progress)
 - Statistical analysis of how useful students found the information and how often it was used both prior to and after their arrival at University
 - Data trends / results of quizzes over time
 - Correlations with questionnaire feedback



Part 3: Cell Biology

Monique Yntema





Motivations Behind the Pre-arrival Project

- Own experience:
 - Eager to start
 - Uncertain of expectations what should I know from high school curriculum?
- Contribution to peer support:
 - VetPAL leader = sharing experience & providing academic support
 - Opportunity to provide additional support for 1st year students
 - Transit project additional support for 1st years that are more likely to perform poorly
- Academic:
 - SRC project (10% of final year mark)
 - UCVME teaching certificate





Aims & Approach to Cell Biology

- Revision with expansion of knowledge
- Start all students off with the same level of knowledge
 - Fill in gaps of previous schooling
- Content selection:
 - Overview of main cell biology topics
 - Cell structure
 - DNA & Genetics
 - Enzymes
 - Embryology introduction
 - 3D 'Glass' cell
 - · Basic structure to aid visualisation and understanding
- Content checked by Animal Body 1 Course Organiser





Cell Biology Presentations

- Use of Articulate Storyline
 - Simple & easy to use
 - Able to upload presentations from Microsoft Powerpoint
 - Ability to allow non-linear movement of the presentations
 - Allowed students to choose and skip through sections
 - Ability to imbed media links into the presentation e.g.
 external link
 - Ability to create drag & drop exercises as well as questions
 - IT personnel were available during launch week when issues arose
 - Thanks to Eoghan Clarkson!





Menu

Proteoglycans

GAGs

- Hyaluronan
- Cytoskeleton
 - Cytoskeleton
 - Cytoskeleton
 - Intermediate filaments
 - Intermediate filament cross l...
 - Microtubules
 - Microtubule structure
 - centrosome
 - motor proteins
 - actin filaments
 - cell crawling and actin
 - Actin dependent motor prot...
- Cell adhesion
 Cell adhesion
 Cell Adhesion
 Cell cell junctions
 tight juctions
 tightness of tight junctions
 Adherens junctions
 desmosomes
 hemidesmosomes
 - gap junctions
 - intergrins
 - transient cell adhesions
 - u ansient cen aune
 - Untitled Scene

Cell Anatomy Menu



Cell anatomy



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Cell Anatomy Menu



Menu

 Cells and Cell Compartments Cells and Cell Compartments Prokaryotic Cell

Drag and drop eukaryote cell ...

Virus Structure

Eukaryotic Cell

Prokaryotic Cell

Nucleus

DNA packing

Hetro- and eu- chromatin

Mitochondria

Nucleolus

Ribosomes

Rough Endoplasmic Reticulum

Cytoplasm

Smooth Endoplasmic Reticul...

Vesicle

Golgi apparatus

Mitochondria

Cytoskeleton

Stucture of the cytoskeleton Peroxisome

Lysosomes

Lysosomal destruction

Centrosome

 Plasma Membrane Plasma Membrane Plasma Membrane



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Drag and drop eukaryote cell structures

Smooth ER Rough ER Mitochondrion Golgi apparatus Nucleus Nucleolus Centriole Cytoplasm Plasma Membrane Ribosome THE UNIVERSITY of EDINBURGH The Royal (Dick) School

Cell anatomy



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wikimedia org



Glass Cell

- Inspired by 'Glass Horse' teaching material
- Achievable?
 - Help from IT staff at vet school
 - Advice from mechanical engineer
- Programme choices:
 - Blender open source software
 - Autodesk 3DS Max
 - Professional software
 - Free student copies
 - Large number of tutorials and advice from developers and users
 - Secure file storage on own devices













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Integration of YouTube videos into LEARN course – providing an illustrative introduction to some topics

Genetic recombination 1 💿

Enabled: Statistics Tracking

Genetic recombination is the production of offspring with traits that differ to those found in either parent.

Genetic recombination occurs during meiosis.



Genetic recombination 1 Duration: (6:12)

User: khanacademymedicine - Added: 29/01/15 YouTube URL: http://www.youtube.com/watch?v=BlnUNmfGn7I



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Initial Analysis of data - LEARN

- 63% of students accessed the cell biology component
 - 57% of students accessed prior to starting university on the 21st Aug 2015
- Highest access on the launch of the pre-arrival content and just before the start of welcome week (Average views per person = 2.9)
- Approximately 20% of the year have revisited the cell biology content throughout the year

Usage of Cell Biology Course 20th Aug- 2nd Feb



Initial Analysis of Survey Results

31% survey response rate for the 1st survey. SurveyMonkey

From the survey:

- 70% accessed the cell biology section only after starting university
- 75% agreed that the course was easy to understand
- 75% said they revisited the course during the Animal Body 1 course
- 75% agreed they had benefitted from accessing the course
- 100% of the responders felt the content was beneficial for next years intake





Survey comments

- "I found it all very interesting, but found the Welsh A level has definitely left me with a massive gap in my knowledge."
- "I found it a little bit too hard, and found I was having to do a fair bit of extra work. However I think this prepared me for the nature of the degree."
- "I don't think I realised how big a part of my course cell biology was (as there is tons of it), if I'd known I would have revised my cell biology from advanced higher a bit more beforehand, perhaps highlighting that would be of benefit"





The Future

- Improve 3D 'Glass' cell
 - Cell adhesion molecules
 - Animation?
- Change format of information in presentations
 - Problem/case based approach
 - Highlight importance and improve understanding of cell biology in the veterinary profession
- Narration to storyline presentations?
- Additional content
 - Cellular energy
 - Cell signalling





Future of the whole project

- Some tweaks to resources (current creators)
- Make available in Aug 2016
- Future content VetPAL Leader team



