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# PHSI2905 Advanced Assessment Task 2

The second assessment task for the advanced stream has 3 parts. Parts 1 (script) and 3 (video tutorial) are group tasks, part 2 (mini literature review) is an individual task. You will be randomly assigned into groups for this assessment. The details for each of the three parts of this assessment task are described below.

## Part 1 – Video Tutorial Script

Write a Shooting Script for a 5-10min video tutorial on an aspect of Physiology you will cover in this unit of study (PHSI2905). The video tutorial itself is Part 3 of this assessment task. In order to help plan for shooting your video it is worth, as a group, coming up with a shooting script for your video. This will allow you to make more effective use of your time when you come to shoot the video and will let you delegate the various production roles.

A suggested workflow for this assessment task is to:

* Decide what topic you will cover in your video tutorial and research the background information of your topic
* Work out how to best teach that topic to your audience - Your audience will be your peers, intermediate level university science students (also see Part 2 below).
* Decide what style you will use to create your tutorial - How exactly will you go about making your tutorial? Will you have experts talking to the camera, will you have off screen narration, will you use graphics or animations to illustrate your point?
* Have a look at the marking sheet to see how the script is being assessed
* Write your script

### Requirements

* General – Your script is basically a draft for your video which lets us give you feedback on your video before you start shooting. Your script should describe everything that will appear in your video, ie all the vision, in other words what will be happening on the screen, as well as the dialogue and the audio.
* Effects and transitions – you should not only describe WHAT will appear in your video, but also HOW it will appear in your video, what transitions are you using, are you animating any elements, are you synchronizing vision with sound etc.
* Title – Your video (and therefore your script) should have a clear concise title that describes the topic you will be covering.
* Introduction – Your video should include an introduction of some sort. You should introduce what your video is about, tell your audience what the problem/topic you will be covering is and what general area of Physiology that this topic is part of. Why does this topic need to be addressed?
* Body – Using what you found out about what constitutes “good” educational material, you should thoroughly describe your topic. Break complex ideas into simpler explanations. Try to add sufficient level of detail that you fully explain the mechanisms underlying your topic to a university level, as opposed to the level of detail suitable for the general public that you generally find on many internet resources. You may need to research the scientific literature to fully understand the mechanisms you are discussing in order to do this.
* Graphics/Visual Aids - try to create visual aids, images, animations, diagrams etc that illustrate and clarify the topic in a way that makes it easier to understand. One of the purposes of using multimedia as a teaching aid is that the demonstration of the material can be much richer than simple text or verbal explanations. Moving images can often provide greater clarity that static images in demonstrating many mechanisms, eg demonstrating processes that occur over time or demonstrating the 3D spatial arrangement of structures.
* Voice work – Your video should include vocal narration of some sort. Avoid using only subtitles to explain your topic. Video is an audiovisual medium so both vision AND sound should be used to obtain maximum benefit from the medium. You may use any style of narration, ie to camera or VO. This should be included in your script.
* Style – You should use scientific language and style, avoid colloquialisms and informal/comedic styles.
* Conclusion – Should summarize the important points you covered, ie what the viewer has learned in this tutorial. Don’t introduce anything new. Be brief.
* References – You don’t need to include the credits that you will include in your final video in your script since only material that makes it to the final cut needs to be included, but you should include a bibliography of where you found the information that allowed you to prepare the script. List the references as you would in a journal article. These are not part of the script, just your list of references that you used in order to create the script.
* Tips:
  + Use the screenplay template below to help you format your script
  + Producing video is time consuming and often expensive when done professionally – use the scripting process to really refine what you are trying to accomplish in your video
  + The material that is used in your final video may differ from that described in the script handed in here. It is the intention of the script to provide feedback on the process of film production and your video project.

A good explanation of script writing format can be found on the screen Australia web site here:

http://www.screenaustralia.gov.au/getmedia/ffd1fc7d-1bc1-48a5-92e1-4b6db107fcde/suggscriptlayout.pdf

A word doc script template which you may find useful can be found here:

www.und.edu/instruct/cjacobs/ScreenplayTemplate.dot

**Cover Sheet:** Fill in the cover sheet (Assessments > PHSI2905 Assessment Information > Assessment Task 2 > Cover Sheet - Script and Video Tutorial.doc) and submit with your script. This will be the coversheet for both group parts of this activity, Part 1 (the script) and Part 2 (the video tutorial).

**Word Count:** None specified. Write whatever you need to write in order to script a 5-10min scientific video tutorial.

**Due Date:** Wed 20th April, 2016

**Due Time:** 11:59pm

**Submit:** Electronically via Turnitin on Blackboard

**Percentage of final mark:** 6%

## Part 2 – Mini Literature Review

This is an individual task. Write a mini literature review on what are the characteristics of “good” educational material for science, eg games, videos, face to face tutorials, review quizzes etc. You may wish to define what is meant by “good”, list the types of educational material or resources that might be useful, is there a type of resource what would be particularly useful?

The purpose of this mini review is to:

1. Demonstrate your ability to write a literature review
2. To find the current understanding of what constitutes good educational material, particularly for multimedia resources. Does not need to be exhaustive
3. Use this information to inform your design decisions in Parts 1 and 3 of this assessment task

**Cover Sheet:** Fill in the cover sheet (Assessments > PHSI2905 Assessment Information > Assessment Task 2 > Cover Sheet - Literature review.doc) and submit with your literature review.

**Word Count:** 800 words (does not include reference list)

**Formatting:** 12 point, double spaced

**Deliverables:** Word Document of written literature review

**Marking:** See marking sheet for how marks will be awarded

**Due Date:** Wed 20th April, 2016

**Due Time:** 11:59pm

**Submit:** Electronically via Turnitin on Blackboard

**Percentage of final mark:** 10%

## Part 3 – Video Tutorial

Create a video tutorial on some aspect of the Physiology of the organ systems you will be covering in this unit of study. There are a series of suggested topics to choose from below, or as a group you may wish to create your own topic. These videos are intended to be aimed at an audience of your peers, university level students and will be posted online and so should be created under open educational resources policy using a creative commons license. As such you should only use material in your video that you have the appropriate rights to use or that you have attributed correctly, potentially in your credits.

The purpose of this assessment task is to:

1. Demonstrate the ability to communicate scientific concepts to a specific audience using multimedia
2. To gain a deeper understanding of one of the physiological systems you are studying by creating an educational resource that will teach others about that system.

## What are we creating here?

The United Nations Educational, Scientific and Cultural Organization (UNESCO) first developed the idea of Open Educational Resources in 2002 defining them as “teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions”. Since then many of the major Universities around the World have devoted time to creating and providing open access to educational materials in order to more equitably make available the knowledge produced, particularly by publically funded institutions.

These materials make teaching easier as you do not need to try to navigate complex legal rights issues in order to determine whether you are able, or, to what extent you can distribute material to your students. Open Educational Resources also make quality educational materials available to developing countries or individuals from less advantaged backgrounds without the costs associated with commercially available material.

Some examples of Open Educational Resources/Programs around the world are:

MIT: <http://ocw.mit.edu/index.htm>

California State University: <https://www.merlot.org/merlot/index.htm>

University of Tasmania: <http://www.adapt.edu.au/>

University College London: <https://www.ucl.ac.uk/teaching-learning/technology/oer>

Yale: <http://oyc.yale.edu/>

It the spirit of the open education movement the educational video tutorials you will make as part of this assessment task will be made publically available on a variety of platforms upon completion and submission. Thus note that **when you sign and submit the cover sheet for this assessment task (submitted with the script in week 7) you are certifying that you have the rights to use all material in your video and you release your appearance or audio recording in the video you made**.

### Suggested Approach to this Assessment Task

* Use what you have learnt from your literature review to design the video you will make. a) What characteristics should it have/techniques will you need to use for it to be a “good” video. b) What characteristics should it have to be a “good” tutorial?
* See the resource list for this assessment task below for some example videos. You may wish to watch or have already watched example videos on You Tube and Vimeo. Remember to watch videos critically with a view to recognizing what makes them good or bad. What are good points/techniques that you might include in your video but just as importantly, what are some bad points that you might avoid?
* Videography/Film making tips:
  + Use a tripod
  + Use multiple camera angles – static images bore people
  + Use B-roll to illustrate concepts being spoken of during dialogue
  + Consider using titles, graphics or animation to illustrate your point/captivate your audience
  + Use music or sound to enhance your video
* Audio Tips:
  + Watch how you are recording sound. Record dialogue/voice over at a consistent distance from the mic
  + Use atmos (a clean recording of the ambient sound from the environment you are recording in) to give a sense of presence to your voice overs or to cover distracting sounds.

### Suggested topics

* Describe the different types of touch receptors in the body. What are their mechanism of action, where are they located, what are the relative densities of these receptors across different parts of the body?
* Describe what factors affect visual acuity
* Describe the structures involved in monosynaptic versus polysynaptic reflexes. Give examples of each.
* Explain the physiological processes underlying neuronal action potentials. What initiates them, what channels are involved, what happens to the membrane potential, what is the time scale?
* How do voltage gated sodium channels in neuronal axons work, compare them to voltage gated potassium channels in the same tissue.
* Compare the depolarization of the nerve compared with skeletal muscle. Give some examples of the function of these tissue types in the body and explain why the differences in these tissue types might be an advantage.
* Describe the contraction cycle in skeletal muscle
* Describe the calcium channels present in skeletal muscle
* Describe in detail how depolarization in induced in skeletal muscle at the neuromuscular junction
* What is the role of the t-tubules in skeletal muscle
* Explain why there is an optimal length for force development in skeletal muscle.
* What is the role of Ca2+ in skeletal muscle? What are the sources of Ca2+ during skeletal muscle contraction? How is Ca2+ regulated/controlled in skeletal muscle?
* Explain the physiological basis of increased cardiovascular fitness with ongoing fitness training. ie what do we mean by fitness, how do your systems change such that you become fitter, what is the physiological mechanism by which the body adapts to fitness training.
* Explain the contractile mechanisms and calcium source for smooth muscle?
* How is cardiac muscle contraction induced?
* How does the autonomic pathway regulate visceral/respiratory/cardiac function?
* How is voluntary movement generated?

### Notes on how the Educational Value Mark will be calculated

While the majority of marks for Part 3 of this assessment task (the video tutorial) will be based on the scientific content, the style and the quality of the material presented etc, as the task is specifically to produce an educational resource, a portion of the mark will be given for the how effective a teaching resource the video is. Typically how effective teaching material is can only be assessed by pre-and post-testing groups of students some of which view the material some of which don’t, to determine the extent to which the teaching resource has improved retention of the information.

As it is beyond the scope of this assessment task to perform this sort of research, we will instead use the information you have drawn from the literature in your mini literature reviews in order to develop a measure by which we can rate the educational aspect of the material you have produced. Your mini literature reviews were specifically to identify the characteristics of what constituted “good” educational material. Once the literature reviews are handed in in week 7 we will compile a matrix of the features that a teaching resource should have in order for it to be most effective.

In week 13 we will watch the videos during the tutorial and both students and academics will mark the videos using the matrix. The mark that we come up with will be the Educational Value mark which will comprise 10% of your final mark for the video. The Educational value score will be calculated as 1/3 of the average score of all the students (except the students who made the video) + 2/3 of the average mark of the academics.

**Time limit:** 10min or less

**Deliverables:** Video File

**Submission:** Electronic submission

**Format (container):** .mp4

**Codec:** H.264

**Aspect Ratio:** at least 1920x1080p

**Marking:** See marking sheet for how marks will be awarded

**Due Date:** Wed 1st June, 2016

**Due Time:** 11:59pm

**Submit:** Electronically via Kaltura on Blackboard

**Percentage of final mark:** 15%

## Resources

Have a look over the resources below. They are some ideas to get you started on what to look at for this assessment task.

All student access computers have Windows Movie Maker available via the Citrix Receiver. Of course if you have access to any other type of video editing software then you are welcome to use that to edit your videos. Alternatively you may wish to make use to the adobe suite of editing software, Premiere Pro for Video editing and simple animation and Audition for audio editing. All Adobe software allow a 30 day free trial and the software is fully functional. You would just need to have all your footage and audio recorded ready for editing, then do your editing within the 30 days allowed.

<http://www.adobe.com/au/creativecloud/catalog/desktop.html?promoid=KSPAJ>

There is also the potential for us to book the Brennan MacCallum Room LS120 which has Premiere Pro installed on its computers on Fridays from 9-11am. We would probably only do this for a couple of weeks towards the end of semester, again once everyone has their footage and audio ready to edit and just need a hand putting everything together. This is purely optional and only if people are interested. We can’t book out a whole teaching lab and have no one turn up.

Databases that you can use to find educational research can be seen at:

<http://libguides.library.usyd.edu.au/content.php?pid=27936&sid=203395>

Educational Research Literature on Educational Resources

<https://dern.acer.edu.au/search/keyword-results/search&keywords=creating+educational+resources/>

The ERIC is probably the major educational research database on the library web site. The link to the ERIC database via the Ovid platform is:

<http://ezproxy.library.usyd.edu.au/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&MODE=ovid&D=eric&PAGE=main&LOGOUT=http://www.library.usyd.edu.au/databases/>

Paper: Bringing Teaching To Life: Using Multimedia To

Engage And Empower Students

<http://ro.ecu.edu.au/cgi/viewcontent.cgi?article=1086&context=ceducom>

Comments on good teaching:

<http://www.iml.uts.edu.au/learn-teach/goodteaching.html>

Journal of visualized experiments (JOVE)

This journal specializes in videos of research experiments. The purpose of their videos is therefore different from yours but may have some good examples of professionally produced videos displaying various aspects of medical science-type information. You have to access this journal via the university library catalogue in order to access the videos

<http://opac.library.usyd.edu.au/search~S4?/tJournal+of+visualized+experiments+%28Online%29/tjournal+of+visualized+experiments+online/-3%2C-1%2C0%2CB/frameset&FF=tjournal+of+visualized+experiments+online&1%2C1%2C>

This paper is a good example of researchers examining the aspects of multimedia which result in better learning by students.

Jenkinson J; McGill G. Visualizing protein interactions and dynamics: evolving a visual language for molecular animation. CBE Life Sciences Education. 11(1):103-10, 2012

<http://www-ncbi-nlm-nih-gov.ezproxy1.library.usyd.edu.au/pmc/articles/PMC3292069/>

This book is a very in depth treatment of multimedia learning. It is very long and not all chapters are relevant to your needs, but by all means have a look through it and see if it gives you any ideas.

The Cambridge Handbook of Multimedia Learning

<http://ebooks.cambridge.org.ezproxy1.library.usyd.edu.au/ebook.jsf?bid=CBO9781139547369>

(if that link doesn’t work go to the University Library catalogue and search for the title – the book comes up as an e-resource)

### Royalty Free Music

Free Royalty Free Production Music

<http://www.bensound.com/royalty-free-music/cinematic>

<http://www.purple-planet.com/>

The very excellent music of Kevin MacLeod, which is free to use can be found at:

<https://incompetech.com/music/royalty-free/music.html>

After Effects Tutorial - Basic Typography & Motion Graphics

<https://www.youtube.com/watch?v=F3h2pbZkMT4>

### Tips on Video Production

Six minute video on documentary interview technique. You don’t necessarily have to be using interviews, but if you have a person talking to camera then some tips here may be useful.

Talks about using two cameras

Talks about sound

Talks about shooting B-roll and deciding where to shoot

<https://www.youtube.com/watch?v=k-2zrWh82iU>

This clip also talks about interviews but, in addition, talks about film making technique such as the rule of thirds.

<https://www.youtube.com/watch?v=5omQE5UbpPg>

This series of clips demonstrate some important considerations when shooting video and audio You don’t need to watch them all but there are some good suggestions for any topics that you might be having trouble with.

https://www.youtube.com/watch?v=yVTAOt0UAdE&list=PL13B3A489E8AE895A

### Some good examples of science videos:

The crash course series of educational videos:

<https://www.youtube.com/watch?v=ANi709MYnWg>

This is an example of a tutorial on eye anatomy:

<https://www.youtube.com/watch?v=nrrXFIWd1AY>

This is a very good captivating TED talk

<https://www.youtube.com/watch?v=LPjzfGChGlE>

This one is not a science video but is a nice, clear, engaging style

<https://www.youtube.com/watch?v=jwHN6QQWv2g>

### Some Boring Science Videos:

This video is an example of why we script videos

<https://www.youtube.com/watch?v=73YmP_JSrlU>

No audio

<https://www.youtube.com/watch?v=UTfMrx7275w>

# Script Assessment Marking Sheet

Student: SID:

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Statement** | **Max Mark** | **Mark Awarded** |
| Title | Script should Show the title of the video. Should describe how the title will be presented. Title should be informative. | 5 |  |
| Introduction | Script should detail the short introduction that will be included in the video. What is the dialogue that will be included, how will it be presented, ie over music as a voice over, presented to camera, what is the location of the shot, what is the vision that will be on screen during the introduction. Introduction should be interesting, engaging and informative. Should detail what specific topic will be covered and what is interesting/useful/novel about the video. | 10 |  |
| Body | Script should provide detail about everything that will be seen during the video and everything that will be heard during the video. Students should write the dialogue that will be delivered and describe *how* will it be delivered. Students should describe what will be seen on the screen during the dialogue and what will be heard during the dialogue. | 20 |  |
| Graphics/Visual Aids | Students should detail what visual aids/diagrams/graphics/animations will be used to illustrate or demonstrate the mechanisms described in the video. Students should endeavor to make their own visual aids, but stock footage, properly cited in credits, used to suit the purpose of the video is acceptable. The intended visual aids etc should be described | 15 |  |
| Style | The style and formatting of the script should be in the form of a screen play as described in the handout the students were given. The style of the writing and dialogue should be scientific, not colloquial/comedic. Video should be in the style of a tutorial or an educational documentary. The script should be concise and to the point, should not include too many separate topics. The information presented should be factually correct and should be presented clearly and logically. Information should be pitched at a University level science student. | 10 |  |
| Conclusion | Script should detail the conclusion/summary of points what will be included in the video. This conclusion should summarize and highlight the topics you have covered. | 5 |  |
| References | Script should list where information was obtained in order to create the script in the form of a bibliography similar to those found at the end of scientific journal articles. | 5 |  |
|  | **Total** | 70 |  |

# Video Tutorial Assessment Marking Sheet

Student: SID:

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Statement** | **Max Mark** | **Mark Awarded** |
| Title | Video should have some sort of title graphic. Title should be informative. | 5 |  |
| Introduction | Video should include a short introduction that describes briefly what will be covered. Students should include the general area of physiology that will be covered, the specific problem/mechanism being addressed and why the viewer might be interested in this. | 10 |  |
| Body | The main part of the video should thoroughly describe topic that was identified in the introduction. The body of the video should not include additional topics not mentioned in the introduction. Information should be factually correct. Information should be presented clearly and logically. Information should be pitched at a University level science student. | 20 |  |
| Graphics/Visual Aids | Video should include visual aids in order to enhance/illustrate explanation of topic. These may take the form of B-roll, stock footage, line diagrams, animations, tables, charts etc. Students should endeavor to make their own visual aids, but stock footage, properly cited in credits, used to suit the purpose of the video is acceptable. Visual aids should be clear (ie well produced, high resolution, well portrayed, clearly identified etc) | 15 |  |
| Voice Work | Video should include a verbal description of topic (ie avoid using titles only to explain topic, video is an audiovisual medium so both sound and vision should be used effectively) You may use any style of narration, ie to camera, voice over. Voice work should be clear, concise, free from mistakes or stumbles. Voice recording should be a consistent volume and quality. | 15 |  |
| Educational Value | This component will be judged based on a matrix of parameters identified by students in their mini literature review of characteristics that comprise “good” educational material. The educational value score will be 1/3 student mark + 2/3 academic mark using this matrix. \*see notes on video tutorial task for more information on how the educational value mark will be generated. | 10 |  |
| Style | Be scientific, not colloquial/comedic. Video should be in the style of a tutorial or an educational documentary. Finished video should be in 1080p aspect, .mp4 format (H.264 codec recommended). Video should be concise and to the point, doesn’t ramble. | 10 |  |
| Conclusion | Summarize and highlight the topics you have covered. | 5 |  |
| References | Should include some form of credits at the end of the video. Include what each person did, include credits to resources used eg music, stock footage. Include reference list of references used to provide scientific factual knowledge. | 10 |  |
|  | **Total** | 100 |  |

# Literature Review Marking Sheet

Student: SID:

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Statement** | **Max Mark** | **Mark Awarded** |
| Title | Title should be clear and concise. Title should be descriptive of what is in the essay. | 2 |  |
| Introduction | Should outline the background of the topic being examined. Should provide the justification for why this topic is important. Should allow the reader to understand why the topic is being addressed. Should include the aim(s) of the essay. | 10 |  |
| Body of Essay | The information in the body of the essay should address the aims of the essay. The authors should avoid presenting information that does not address the aims of the essay. Information should be presented clearly and logically. Authors should attempt to collect information from a range of sources, need to include a majority of scientific, peer reviewed sources, in addition to any web based sources. The authors should state the point they are making explicitly. Authors should use sufficient references to support their arguments. Authors should avoid using definitive statements. | 20 |  |
| Language/Style | There should be no spelling or grammatical errors. The essay should be in scientific form (third person past tense). The subject-verb-object construction of sentences should agree. Sentences should be complete. Authors should avoid the unnecessary repetition of words or subject matter. Define abbreviations upon first use; avoid using the possessive form for inanimate subjects. | 10 |  |
| Conclusion | Authors should include a summary of their principal findings. This summary should not include any new information not discussed earlier. | 5 |  |
| References | References should be cited in-text correctly according to the style of referencing chosen. Reference section should be listed according to the style chosen (eg numerical order for numbered styles, alphabetical order of last name of first author for author styles). | 3 |  |
|  | **Total** | 50 |  |