Course Assessment Report
Washtenaw Community College

Discipline	Course Number	Title
Animation	155	ANI 155 06/01/2017- Textures and Studio Lighting for Animation
Division	Department	Faculty Preparer
Business and Computer Technologies	Digital Media Arts	Randy Van Wagnen
Date of Last Filed Assessment Report		

I. Assessment Results per Student Learning Outcome

Outcome 1: Texture 3D models using industry standard software.

- Assessment Plan
    - Assessment Tool: Portfolio review
    - Assessment Date: Spring/Summer 2017
    - Course section(s)/other population: Random selection of students from at least two sections, total not to exceed 24
    - Number students to be assessed: 24
    - How the assessment will be scored: Departmentally-developed rubric
    - Standard of success to be used for this assessment: 70% or more of students must score 70% or higher.
    - Who will score and analyze the data: Departmental faculty

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2016	2017	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
37	24

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

Chose 24 randomly as per the instructions above.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

Chose both DL and face-to-face students.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

Used a rubric and applied it to the final comprehensive project. In the newer DL Blackboard site, this rubric was embedded, and in the older course it had to be re-scored manually. There were four main categories: 1) Technical proficiency, which evaluates the complexity of shader and light construction, camera setup, and render engine setup. 2) Organization, which evaluates naming, appropriate node attachments, etc. 3) Appearance, which evaluates the overall effectiveness of the render, including artistic considerations such as color usage and framing. 4) UV layout, which evaluates UV layouts. For this outcome, we needed the data from all 4 categories. NOTE: if you're unfamiliar with the rubric tool in Blackboard, it is really quite cool, and I would be happy to show it to the committee. However, I use weighted rubrics (instructional designers over in the DL area helped me build these), which don't fit into the usual model that we see. I can show you this during the meeting, but I took the liberty of doing all of the averages and converting them to percentages for ease of analysis. The raw numbers proved tricky to work with since different categories are weighted differently, so I thought this would make it easier for the committee to look at.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes
Overall, students performed well, with 87% scoring at "proficient."

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

There were a number of areas for improvement, both from a teaching perspective and from an assessment perspective.

If we break the numbers down further, we see that the lowest-scoring category was in Organization (80% received a proficient score on the rubric). Students regularly misnamed, or simply forgot to name the various appropriate nodes. This definitely needs to be re-emphasized in class. In looking at the rubrics from other projects, this probably needs to be established earlier as a priority.

It was a pleasant surprise to see UV layouts, long the bane of any texturing instructor, scoring 81% at a proficient level. This isn't a great score, but shows that we have come a long way from earlier classes, where I suspect that these scores would have been much lower. UV layouts are technically and conceptually very difficult, but the tools for using them have become a lot more friendly in the last several years. We also made a strong effort to prioritize them during the DL reorganization and this appears to be paying off.

87% of students scored well on technical proficiency. However, looking at some of the projects, there still appears to be a "shader complexity" shortage. I do not, of course, mean that students need to create more intricate shader networks for form's sake, but there are quite a few examples where bare color maps are used, when the addition of other maps for roughness and specular color and a host of other attributes would improve the shader construction.

Approximately 90% of students scored proficient on the appearance portion of the rubric, and I am very excited about this. Much emphasis has been placed on "making the render look good" in the last few years, as we had moved a bit too far in the technical direction in our teaching. Given the huge amount of technical minutiae that we cover in the course, this drift is hard to avoid, so this score is very heartening.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

From an assessment perspective, the project is a good one. The rubric, however, needs to be strengthened. It works fairly well, but more granularity would benefit future assessments. In particular, the Appearance category needs to be broken down further to tease out specific information (and attribute the score more directly to compositional issues, lighting issues, shader issues, etc.). From a student view the rubric is fine because the instructor clarifies the issues in the Blackboard comment boxes or during in-class critique, but it makes assessment needlessly tedious.

Outcome 2: Create appropriate virtual lighting setups.

- Assessment Plan
    - Assessment Tool: Portfolio review
    - Assessment Date: Spring/Summer 2017
    - Course section(s)/other population: Random selection of students from at least two sections, total not to exceed 24
    - Number students to be assessed: 24
    - How the assessment will be scored: Departmentally-developed rubric
    - Standard of success to be used for this assessment: 70% or more of students must score 70% or higher.
    - Who will score and analyze the data: Departmental faculty

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
2016	2017	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
37	24

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

Chose 24 randomly as per the instructions above.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

Chose both DL and face-to-face students.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

Used a rubric and applied it to the final lighting project. In the newer DL Blackboard site, this rubric was embedded, and in the older course it had to be re-scored manually. There were three main categories: 1) Cleanliness, which evaluates the appropriateness of the lighting setup, and the render engine setup. 2) Organization, which evaluates naming, appropriate node attachments,

etc. 3) Appearance, which evaluates the overall effectiveness of the render, including artistic considerations such as color usage and shadows.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes
Overall, students scored well (86% scored proficient).

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Overall, students scored very highly on this outcome, with 86% averaging proficient or above. Lighting has always been a strong point of this class, so the results are not surprising.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Closer inspection yields some areas which could be improved. The lowest scores were in the organization category, as naming and general neatness continued to be a bugbear for the course. Both of the other categories on the rubric averaged a 91%. Breaking down the ones who scored at a less than proficient, there appeared to be a few key problems. First, students still struggle to construct lighting schemes with complexity to match their compositional ideas. While they are satisfyingly past the "turn on a light to light the whole room" stage, more thoughtfulness needs to be put in to exposing them to appropriately intricate setups. The "movie scene" analysis exercise is a good start, but it might be useful to also introduce more examples of 3d lighting setups *within* the actual software beyond three-point lighting.

Outcome 3: Create imagery using industry standard rendering engines.

- Assessment Plan
    - Assessment Tool: Portfolio review
    - Assessment Date: Spring/Summer 2017
    - Course section(s)/other population: Random selection of students from at least two sections, total not to exceed 24

- Number students to be assessed: 24
- How the assessment will be scored: Departmentally-developed rubric
- Standard of success to be used for this assessment: 70% or more of students must score 70% or higher.
- Who will score and analyze the data: Departmental faculty

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
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2. Provide assessment sample size data in the table below.

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37	24

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

24 chosen randomly as per above.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

Face-to-face and DL evaluated.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

The syllabus called for a portfolio review. Looking at render engine settings in the context of a final project is prohibitively difficult to do in a quantifiable way. Instead, I chose 8 render engine-specific questions off of the final exam. These questions were common to all sections. These were then scored and an item analysis generated.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes
Across all sections, the average was an 84%.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students scored very highly (90+%) on clipping planes, radiance, and photon physics. They scored well (70-90%) on render engine definition, the software/scanline renderer, shadow transparency, and raytracing.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Students got killed (avg. 29%) when general theory questions having to do with color space definitions came up, particularly in regards to HSV space. This needs to be re-emphasized, or revisited specifically later in the class, as it is usually covered in the first few days of the course. They also struggled a bit with raytracing. The foibles of raytracing can be confusing, but they are fundamental (perhaps increasingly so with the prospect of true real-time raytacing fast approaching). We need to look at in-class strategies to improve how this is handled.

Outcome 4: Create and use virtual cameras.

- Assessment Plan
    - Assessment Tool: Portfolio review
    - Assessment Date: Spring/Summer 2017
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    - How the assessment will be scored: Departmentally-developed rubric
    - Standard of success to be used for this assessment: 70% or more of students must score 70% or higher.
    - Who will score and analyze the data: Departmental faculty

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

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2. Provide assessment sample size data in the table below.

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3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

24 students chosen as per instructions above.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

Students from DL and face-to-face were selected.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

A rubric was generated for an assignment handling depth of field, and scored in the following categories: 1) Technical Proficiency assessed the construction of cameras and lenses. 2) Organization assessed the naming of cameras and other appropriate nodes. 3) Appearance assessed framing and depth-of-field.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes
The overall average score was an 88%.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students scored particularly well in the construction of cameras and lenses.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Students struggled with compositional issues rather than technical ones. Proper framing needs to be re-emphasized. I am also unsure if this project is rigorous enough. Perhaps there is a way to pull camera assessment data off of the camera instruction for the final project used to assess Outcome 1. In the final project

camera construction often is more comprehensive and critically important rather than the exercise chosen here.

II. Course Summary and Action Plans Based on Assessment Results

1. Describe your overall impression of how this course is meeting the needs of students. Did the assessment process bring to light anything about student achievement of learning outcomes that surprised you?

   This course continues to be a strong one for the progam. While there are lots of specific issues that need to be addressed, the syllabus works very well. Given that the specific methods used in the class have changed radically in the last ten years, this is a testament to good, appropriately broad syllabus writing.

2. Describe when and how this information, including the action plan, was or will be shared with Departmental Faculty.

   Will be shared with the animation crew during beginning-of-year get-together that I host.

3. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Assessment Tool	For outcome 3, it makes sense to assess using exam questions.	Very difficult to narrow down render engine specifics from portfolio review.	2017

4. Is there anything that you would like to mention that was not already captured?

   I'll bring my raw data and charts to the meeting so you can see the numbers, as Blackboard is being annoying. The Rubric Evaluation tool is really awesome, when it works (less than half of the time).

III. Attached Files

Faculty/Preparer:	Randy Van Wagnen	**Date:** 08/02/2017
Department Chair:	Ingrid Ankerson	**Date:** 08/03/2017
Dean:	Eva Samulski	**Date:** 08/04/2017
Assessment Committee Chair:	Michelle Garey	**Date:** 04/25/2018