

# Syllabus

Winter 2019  
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Meeting Times: Tuesday / Thursday  
11:00 AM - 1:30 PM

# SCAD®

The University for Creative Careers®

*School of Digital Media, Department of Visual Effects, Savannah*

## TECH 312 - Advanced Application Scripting Section: 01 CRN: 21146

### SCAD Mission:

SCAD prepares talented students for creative professions through engaged teaching and learning in a positively oriented university environment.

### Course Description:

This course explores the use of MEL, Autodesk Mayas embedded scripting language, Python and other modes of shell scripting as tools for automating repetitive tasks, customizing the user experience, utilizing external data sources and extending the basic toolset with custom features. Prerequisite(s): VAFX 210 or ITGM 236 or ANIM 250.

**Course Goals:** The following course goals articulate the general objectives and purpose of this course:

1. Students will gain an understanding of the integration of scripting languages in Maya, Python and other scripting languages.
2. Students will develop an advanced understanding of other general programming concepts.
3. Students will develop and document a tool with a custom user interface.

**Student Learning Outcomes:** The following course outcomes indicate competencies and measurable skills that students develop as a result of completing this course:

1. Students will demonstrate the ability to conceptualize, plan and develop MEL, Python and shell scripts.
2. Students will demonstrate the ability to utilize, modify and troubleshoot third-party MEL, Python and shell scripts.
3. Students will demonstrate the ability to utilize external data sources in Maya through scripting.
4. Students will demonstrate the ability to present a project to peers and a general audience.

## Schedule of Classes:

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Key events including assignments, projects due dates/exam dates:

<b>Pre-quarter assignment</b>	Review the best technical breakdowns, images and animation of the Winter 2018 quarter paying particular attention to the different communication styles of the students. <a href="https://sdm.scad.edu/faculty/mkesson/tech312/wip/best/winter2018/index.html">https://sdm.scad.edu/faculty/mkesson/tech312/wip/best/winter2018/index.html</a>
<b>Class 1:</b> Tue, January 08, 2019	<ul style="list-style-type: none"><li>● REVIEW PRE-CLASS ASSIGNMENT</li><li>● setting up and up-loading the portfolio web sites</li><li>● executing a python script from the command line</li><li>● executing a python script from Cutter</li><li>● accessing python documentation - control + double-click</li><li>● fundza.com <a href="#">quick reference</a>  </li><li>● tutorialspoint.com <a href="#">quick tutorials</a></li><li>● built-in datatypes</li></ul>
<b>Class 2:</b> Thu, January 10, 2019	<p><b>Review</b> the redesigned student index pages.</p> <p><b>Topics</b></p> <ul style="list-style-type: none"><li>● importing custom modules</li><li>● using "if __name__=="__main__":"</li><li>● using the <a href="#">os</a> and <a href="#">os.path</a> modules</li><li>● loops &amp; conditionals</li><li>● Challenge 1 - write a script to rename all the ".jpg" files in a directory.</li></ul>
<b>Class 3:</b> Tue, January 15, 2019	<p><b>Review</b> the "file renaming" challenge.</p> <p><b>Topics</b></p> <ul style="list-style-type: none"><li>● using the <a href="#">glob</a> module</li><li>● using the "__file__" attribute</li><li>● implementing a proc</li><li>● using the os.path module to construct file paths</li><li>● writing files</li><li>● Challenge 2 - write a script that will make a python list containing the numeric extensions of all the ".jpg" files in a directory.</li></ul>
<b>Class 4:</b> Thu, January 17, 2019	<p><b>Review</b> the "list numeric extensions" challenge.</p> <p><b>Topics</b></p> <ul style="list-style-type: none"><li>● what is batch processing?</li><li>● example 1: writing a python script to <a href="#">batch render</a> Pixar .rib files</li><li>● Challenge 3 - adapt the "batch render" script to work on Windows.</li></ul>

<p>Class 5: Tue, January 22, 2019</p>	<p><b>Review</b> the "batch render" Linux and Windows challenge.</p> <p><b>Topics</b></p> <ul style="list-style-type: none"> <li>● example 2: writing a python script to <a href="#">batch denoise</a> .exr images</li> <li>● using regular expressions - the <a href="#">re</a> module</li> <li>● Complete the <a href="#">Batch Denoise</a> assignment ready for grading on session 5. The python code must produce a batch_denoise script that is platform independent.</li> </ul>
<p>Class 6: Thu, January 24, 2019</p>	<p>Topics</p> <ul style="list-style-type: none"> <li>● refining the batch denoise python script</li> </ul>
<p>Class 7: Tue, January 29, 2019</p>	<p><b>Review</b> the "batch denoise" technical breakdowns.</p> <p><b>Topics</b></p> <ul style="list-style-type: none"> <li>● implementing a class</li> <li>● using a class</li> <li>● defining a sub-class</li> </ul>
<p>Class 8: Thu, January 31, 2019</p>	<p>Topics</p> <ul style="list-style-type: none"> <li>● introduction to <a href="#">qt designer</a></li> <li>● implementing a simple GUI with limited functionality</li> </ul>
<p>Class 9: Tue, February 05, 2019</p>	<p>Topics</p> <ul style="list-style-type: none"> <li>● pre-visualization of a GUI for batch denoising</li> <li>● implementing a GUI for batch denoising</li> <li>● Complete the <a href="#">Batch Denoise GUI</a> assignment ready for session 13.</li> </ul>
<p>Class 10: Thu, February 07, 2019</p>	<p>Topics</p> <ul style="list-style-type: none"> <li>● refining the GUI for batch denoising</li> </ul>
<p>Class 11: Tue, February 12, 2019</p>	<p>Topics</p> <ul style="list-style-type: none"> <li>● implementing the functionality of the GUI for batch denoising</li> </ul>
<p>Class 12: Thu, February 14, 2019</p>	<p>Topics</p> <ul style="list-style-type: none"> <li>● continue implementing the functionality of the GUI for batch denoising</li> <li>● Prepare a webpage that outlines your ideas for a personal project. To be presented at the beginning of the next session.</li> <li>●</li> </ul>

<p><b>Class 13:</b> Tue, February 19, 2019</p>	<p>Each student to make a 10 minute presentation that outlines the nature of their individual project. Students must address the following issues:</p> <ul style="list-style-type: none"> <li>○ overview of the project</li> <li>○ outcome of the project</li> <li>○ goals to be achieved for each of the remaining sessions.</li> </ul> <p>Studio session devoted to developing solutions to the individual projects.</p>
<p><b>Class 14:</b> Thu, February 21, 2019</p>	<p>Studio session devoted to developing solutions to the individual projects.</p>
<p><b>Class 15:</b> Tue, February 26, 2019</p>	<p>Studio session devoted to developing solutions to the individual projects.</p>
<p><b>Class 16:</b> Thu, February 28, 2019</p>	<p>Group review of student progress as reported on their website. Studio session devoted to developing solutions to the individual projects.</p>
<p><b>Class 17:</b> Tue, March 05, 2019</p>	<p>Studio session devoted to developing solutions to the individual projects.</p>
<p><b>Class 18:</b> Thu, March 07, 2019</p>	<p>Studio session devoted to developing solutions to the individual projects.</p>
<p><b>Class 19:</b> Tue, March 12, 2019</p>	<p>Group review of student progress as reported on their website. Studio session devoted to developing solutions to the individual projects.</p>
<p><b>Class 20:</b> Thu, March 14, 2019</p>	<p>Students will present their individual projects using web based and/or DVD technical breakdowns.</p>

### Grading Opportunities:

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Your overall course grade will be computed according to the following breakdown:

Assignment	Weight
Renaming all the ".jpg" files in a directory.	10%
Listing the numeric extensions of .exr files.	10%
Adapting a batch render script to run on Linux and Windows.	10%
Writing a <a href="#">Batch Denoise</a> python script.	20%
Implementing a <a href="#">Batch Denoise GUI</a> .	25%
Individual research on scripting Nuke.	25%
<b>Total Weight</b>	<b>100 percent</b>

Grading Standards	Range
Letter grade: <b>A</b> = excellent	90 — 100 percent
Letter grade: <b>B</b> = good	80 — 89 percent
Letter grade: <b>C</b> = *	70 — 79 percent
Letter grade: <b>D</b> = *	60 — 69 percent
Letter grade: <b>F</b> = failing	0 — 59 percent

\*Refer to the student handbooks and departmental standards for minimal acceptance for passing grade.

## Course Information:

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### Field Trip(s):

Group exhibition  
'SHADOW STORIES AND MATTERS OF TIME'  
OCT. 4, 2018 - JAN. 15, 2019  
SCAD - Museum of Art

Monday 14 Jan 319.1 11am

Nicholas Hlobo  
'UNYUKELO'  
JAN. 24 - JULY 7, 2019  
SCAD - Museum of Art  
Monday 28 Jan 319.1 11am

Quarterly Show

SCAD - Museum of Art  
Friday Feb 1st 3.00pm

**Extra Help Session(s):**

Friday 8 Feb 11am room 223  
Friday 22 Feb 11am room 223

**Extended Learning Opportunities:**

**"The General"** Starring Buster Keaton, Trustees Theatre Thursday, January 17th, 2019 8:00pm

**VSFX Quarterlies Show** SCAD Museum of Art January 18, 2019 4:30pm – 6:30 pm

**Group exhibition: Small Works** Gutstein Gallery Until Jan. 26, 2019 Mon-Fri, 10am to 6pm

**Free Admission** SCAD Museum of Art Sunday, February 10, 2019

**"The Kid"** Starring Charlie Chaplin, Trustees Theater Thursday, February 21st, 2019 8:00pm

**SCAD Career Fair 2019** Savannah International Trade & Convention Center Friday, February 22, 2019

**VSFX Winter Senior Show** Trustees Theatre Wednesday, March 13, 2019 3:30pm-5:00pm

**Other Course Information**

Review the "Selected Works" of VSFX705 from the Fall quarter 2018. In particular, note the work the graduate students did with QtDesigner.

<https://sdm.scad.edu/faculty/mkesson/vsfx705/wip/best/fall18/index.html>

**Course Materials:**

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**Required Text(s):**

Susan Zwerman and Jeffrey A. Okun, editors (2014).

The VES Handbook of Visual Effects: Industry Standard VFX Practices and Procedures (2nd Edition): Focal Press, Burlington MA USA:

ISBN-13: 978-0240825182

**Recommended Text(s):**

[Learning Python](#)

Mark Lutz

O'Reilly Media, ISBN 10: 0-596-51398-4

**Required Material(s):**

Notebook

## University Policies:

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### Academic Integrity:

Under all circumstances, students are expected to be honest in their dealings with faculty, administrative staff and other students.

In class assignments, students must submit work that fairly and accurately reflects their level of accomplishment. Any work that is not a product of the student's own efforts is considered dishonest. Students must not engage in academic dishonesty; doing so can have serious consequences.

Academic dishonesty includes, but is not limited to, the following:

1. Cheating, which includes, but is not limited to, (a) the giving or receiving of any unauthorized assistance in producing assignments or taking quizzes, tests or examinations; (b) dependence on the aid of sources including technology beyond those authorized by the instructor in writing papers, preparing reports, solving problems or carrying out other assignments; (c) the acquisition, without permission, of tests or other academic material belonging to a member of the university faculty or staff; or (d) the use of unauthorized assistance in the preparation of works of art.
2. Plagiarism, which includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgment. Plagiarism also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.
3. Submission of the same work in two or more classes without prior written approval of the professors of the classes involved.
4. Submission of any work not actually produced by the student submitting the work without full and clear written acknowledgement of the actual author or creator of the work.

### Attendance and Personal Conduct:

Only students who are properly registered for a course may attend and participate in that class. Students are expected to attend and participate in all scheduled classes and examination periods. Absences in excess of four class periods per quarter, or 20 percent of the course, result in the student receiving a failing grade for the course. Tardiness, early departure or other time away from class in excess of 15 minutes per class session is considered absence for the class session.

The student's appearance and conduct should be appropriate and should contribute to the academic and professional atmosphere of SCAD. The university reserves the right at its sole discretion to withdraw the privilege of enrollment from any student whose conduct is detrimental to the academic environment or to the well-being of other students, faculty or staff members, or to the university facilities.

### Enrollment policies:

Students are responsible for assuring proper enrollment. See the SCAD catalog for information on add/drop, withdrawals, incompletes, and academic standing.

### Midterm Conference(s):

Each student enrolled in the course will have a midterm conference scheduled outside of class time with the professor. Students are expected to keep this appointment.

### Academic Support and Tutoring:

Academic support for students at all SCAD locations can be found in MySCAD, under the Student Workspace tab, Department Directory, Academic Resources.

### Course Evaluations:

SCAD offers students the opportunity to evaluate all scheduled courses during each quarter term. Student feedback is essential to continuously improve academic services at SCAD. Evaluations will be available the end of each quarter at the beginning of Week 8 and must be completed online by the end of Week 10. A sample course evaluation for on-ground courses is available [here](#).

In order to access course evaluations, the student should take the following steps:

1. Log on to MySCAD
2. Click on the Student Workspace Tab
3. Locate the Course Evaluations link under My Courses channel
4. This will bring up a page that says current surveys and lists all the courses that are currently available for evaluation.

For more information or questions, contact us at [evaluations@scad.edu](mailto:evaluations@scad.edu).

### Student Surveys:

Students are strongly encouraged to provide feedback on their university experience through SCAD's institutional surveys. The SCAD Student Survey and the Noel-Levitz Student Satisfaction Inventory will both be administered in spring quarter. SCAD Student Survey will be emailed to every student's email account starting in Week 1. The Noel-Levitz Student

Satisfaction Inventory will be administered on paper during Week 4 of spring quarter. SCAD's office of institutional effectiveness is responsible for gathering and delivering survey results to decision-makers on campus. For more information or questions, contact us at [surveys@scad.edu](mailto:surveys@scad.edu).