

CSE464 - FACIAL EXPRESSION FOR STYLIZED CHARACTERS

Course 10951 – 2023 Summer Term B – On Campus

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Mons + Weds: July 24 to August 16, 2023

Class Time: 10:30am to 12:30pm

Location: CSE2 Room 141

Lab Time: 12:45pm to 2:00pm

This 8-session summer class, taught by Gary Faigin, author of *“The Artist’s Complete Guide to Facial Expression,”* trains students in the basics of facial expression, and how to create those expressions on a CG facial model that has been rigged using Faigin’s input. Each class includes a lecture on the principles of expression featuring Faigin demonstrating while drawing on his digital pad, followed by complementary digital demonstrations by the TAS, experienced animators using the software program Maya - standard in the animation industry.

Students are introduced to the individual muscles of expression, and shown how to combine those individual muscle movements to create the six cardinal expressions of joy, anger, sadness, fear, surprise, and disgust. Students also pose the various muscle movements reflecting their own faces in a hand mirror or on your cell phone, and rendering the poses and expressions in CG. All student renderings are also reviewed in class, allowing students to correct their expressions, as necessary. Students spend time each week in the computer lab working under the supervision of the class TA who is an experienced alumnus from UW’s own Capstone animation program.

Reference is also made to recent research on facial expression, based on Faigin’s participation in the Facial Expression Research Group (FERG) which, together with the Animation Capstone, is housed in the Animation Research Labs (ARL) at UW. This class is ideal for anyone interested in animation, game design, or mastering the basics of the expressive face, as well as those seeking a hands-on introduction to Maya.

CLASS READING & MATERIALS LIST

CLASS TEXTBOOK “–*The Artists Complete Guide to Facial Expression*” © 1990, by Gary Faigin, available at the University Bookstore or online at www.amazon.com

FAIGIN FACE BLOG – www.FaiginBLOGS.com/face-blog and www.FaiginVFX.com/face-blog.

Please review before class begins.

STUDENT RESOURCE WEBSITE: www.onanimation.com

CSE 464 - Facial Expression Creation For Animation

COURSE SYLLABUS

CLASS #1: INTRODUCTION TO FACIAL EXPRESSION + MOVEMENTS OF THE UPPER FACE | July 24/23

1. Introduction to facial expression - Why it's important, how it's universal, and examples from art and photojournalism.
2. Recent research on human expression and what it tells us.
3. How facial muscles work; active areas of the face.
4. Introduction to Maya

THE EYES & BROW

Neutral eyes and eyebrows

Position of the Lids: opening the upper eyelid; raising the lower lid; the squint

Muscles of the Brow: eyebrow raiser

The Scowl
The Brow of Distress
The Glare

Assignment #1: Posing the Muscle Movements around the Eye. Due Class #2.

CLASS #2: MOVEMENTS OF THE MOUTH (Part 1) | July 26/23

Review of Assignment #1: Posing the Muscle Movements around the Eye

THE CLOSED MOUTH

Sneering Muscle
Frowning Muscle
Pouting Muscle

Smiling Muscle
Lip Tightener

Assignment #2: Posing the closed-mouth movements. Due Class #3.

CLASS #3: MOVEMENTS OF THE MOUTH (Part 2) | July 31/23

Review of Assignment #2: Posing the closed-mouth movements.

THE OPEN MOUTH

Open Mouth - relaxed
Lower Lip Stretcher

Snarl/Disgust
Smile

Assignment #3: Posing open
mouth

Assignment #3: Posing Open Mouth Movements. Due Class #4

CLASS #4: THE CARDINAL EXPRESSIONS—SURPRISE and FEAR | Aug 2/23

Review of Assignment from Class #3: Posing open-mouth movements.

SURPRISE and FEAR

Posing expressions – coordinating eyes and mouth; levels of intensity

The difference between Surprise and Fear

Posing Surprise

Posing Fear

Assignment #4: Posing Surprise and Fear. Due Class #5.

CLASS #5: THE CARDINAL EXPRESSIONS—SADNESS | Aug 7/23

Review of Assignment #4: Posing Surprise and Fear

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SADNESS

The basics of Sadness – Crying vs. merely Sad
Posing Crying
Posing Sadness
Various degrees of Sadness

Assignment #5: Posing Sadness. Due Class #6.

CLASS #6: THE CARDINAL EXPRESSIONS—ANGER | Aug 9/23

Review of Assignment #5: Posing Sadness

ANGER

The basics of Anger – starts with the eye
Closed-mouth Anger – various levels of intensity
Open-mouth Anger – variety of mouth positions

Assignment #6: Posing Anger. Due Class #7.

CLASS #7: THE CARDINAL EXPRESSIONS—DISGUST and JOY | Aug 14/23

Review of Assignment #6: Posing Anger

DISGUST and JOY

The basics of Disgust – the 3 active areas
Posing Disgust – open mouth
The basics of Joy – eye/mouth agreement
Posing the closed-mouth Smile
The broad Smile
The Laugh
Varieties of the Smile: sly, bittersweet, eager & fake

Assignment #7: Posing Disgust, the Closed-mouth Smile and Posing varieties of the Smile & Laugh; finding expressions on the web. Due Class #8

CLASS #8: FINAL REVIEW OF FACIAL EXPRESSIONS | AUG 16/23

Review of final Assignment #7: Posing Disgust and the Closed-mouth Smile AND Posing Varieties of the Smile & Laugh.

Today we have our final review of material covered, our final critique and course summary.



STUDENT LEARNING OUTCOMES

1. Students learn the basics of how to pose various movements of the face in Maya using a pre-rigged model.
2. Students learn the individual components of facial expression and how to pose them on their own face and render them in Maya.
3. Students learn the criteria to create a resting face with no apparent expression in Maya.
4. Students learn to pose convincing and accurate versions of the six cardinal facial expressions in Maya.
5. Students learn to pose certain expressions in varying degrees of intensity in Maya.

STUDENT ASSESSMENT

1. Student grade will be based on successful completion of weekly class Assignments.
2. Maximum points per class Assignment: 45 points.
3. Attendance is worth 40 points, the equivalent of one assignment.

GRADING RUBRIC for “ Facial Expressions Creation for Animation”

Weekly Assignments: Rendering of facial movements and expression	Exemplary 45 points	Accomplished 35 points	Developing 25 points	Beginning 15 points
	Assignment is complete and done extremely well . Required facial movement or expression is clear and accurate. Emotions are recognizable and non-ambiguous.	Assignment is incomplete. Requested facial movement or expression meets general criteria. Emotions are recognizable but not un-ambiguous.	Assignment is complete. Required facial movement or expression is just adequate. Emotions are barely recognizable and/or face contains unrealistic artifacts.	Assignment is incomplete. Required facial movement or expression does not meet general criteria. Emotions are not clearly recognizable.

Notes:

1. Students are required to upload weekly class Assignments before 9pm the day before each class to the designated web address.
2. If an assignment is late there will be a 10% deduction every class day.
3. Students may choose to re-submit any completed Assignment on a one-time basis for review and higher grade. All re-dos must be re-submitted no later than 9pm on August 15. No exceptions.

STUDENT GRADES

Points	Grade	GPA	Points	Grade	GPA	Points	Grade	GPA
400	A+	4.0	290	B	3.0	235	C-	1.7
360	A	4.0	270	B-	2.7	225	D+	1.3
325	A-	3.7	255	C+	2.3	215	D	1.0
300	B+	3.3	245	C	2.0	<200	E/F	0