

Term Information

Effective Term Autumn 2022
Previous Value Autumn 2014

Course Change Information

What change is being proposed? (If more than one, what changes are being proposed?)

1. ACCAD proposes to drop ACCAD 7102 course number to ACCAD 5200, making it available to both graduates and undergraduates.
2. ACCAD proposes to update the syllabus and course content to add undergraduate level work, so that it reflects both levels of study and lab work for grads and undergrads.
3. Motion capture technologies and processes are constantly evolving and therefore the course description and content must be updated respond to these changes.
4. ACCAD proposes to make the course repeatable (2x or up to 6 credits)

What is the rationale for the proposed change(s)?

The rationale for this proposed change is to

1. Create the opportunity for undergraduate students to experience motion capture lab/studio/class content.
2. Present a clearer course description that represents course content
3. Update course content and assignments to match the evolution of the technologies and processes.
4. ACCAD proposes to make the course repeatable (2x), because students can do self-directed work in the course which enables a various application approaches for students.

What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?

This ACCAD course is not a requirement of any program, so we do not anticipate programmatic implications. Students (grads and undergrads) will be able to take this course in an elective capacity. ACCAD supports a motion capture lab, and this course will continue to make use of this special purpose lab.

Is approval of the request contingent upon the approval of other course or curricular program request? No

Is this a request to withdraw the course? No

General Information

Course Bulletin Listing/Subject Area	Adv Computing Cntr Arts&Design
Fiscal Unit/Academic Org	Advanced Computing Center/Arts - D0210
College/Academic Group	Arts and Sciences
Level/Career	Graduate, Undergraduate
<i>Previous Value</i>	<i>Graduate</i>
Course Number/Catalog	5200
<i>Previous Value</i>	<i>7102</i>
Course Title	Motion Capture Production and Experimentation
Transcript Abbreviation	Motion Capture
<i>Previous Value</i>	<i>Mot Capt Prod Exp</i>
Course Description	A hands-on experience with motion capture technologies, addressing contexts and applications. Students learn to operate within an optical motion capture pipeline for recording, real-time retargeting and post-processing of full body human motion and props, as well as developing their own approaches and processes for experimenting with capturing and remapping motion.

Previous Value	<i>Traditional motion capture pipelines and exploration of possibilities for experimental approaches and applications of the technology.</i>
Semester Credit Hours/Units	Fixed: 3

Offering Information

Length Of Course	14 Week, 12 Week, 8 Week, 7 Week, 6 Week, 4 Week
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	No
Grading Basis	Letter Grade
Repeatable	Yes
Previous Value	<i>No</i>
Allow Multiple Enrollments in Term	No
Max Credit Hours/Units Allowed	6
Max Completions Allowed	2
Course Components	Laboratory
Grade Roster Component	Laboratory
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites	None
Previous Value	<i>Prereq: Grad standing, or permission of instructor.</i>
Exclusions	
Previous Value	Not open to students with credit for ArtsCol 760.
Electronically Enforced	No

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code	50.0499
Subsidy Level	Masters Course
Previous Value	<i>Doctoral Course</i>
Intended Rank	Junior, Senior, Masters
Previous Value	<i>Masters, Doctoral</i>

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

COURSE CHANGE REQUEST
5200 - Status: PENDING

Last Updated: Vankeerbergen,Bernadette
Chantal
04/11/2022

Course goals or learning objectives/outcomes

- Recall the historical contexts and disciplines that shaped the development of motion capture technologies
- Compare the advantages and disadvantages of different types of motion capture technology for various applications
- Utilize the technology and process of optical motion capture in the class projects
- Develop the skills to plan and direct an effective motion capture session
- Build a working knowledge of motion capture and editing software to creation of their own work
- Formulate and prototype cases of motion capture application in their field of practice
- *Goals N/A*

Previous Value

Content Topic List

- Performance capture
- Motion Capture history and development
- Motion data editing
- Remapping to characters and props
- Experimental applications for motion data

Previous Value

- *Performance capture*
- *Motion data editing*
- *Remapping to characters and props*
- *Experimental applications for motion data*

Sought Concurrence

No

Attachments

- ACCAD7102_Syllabus2016.pdf: Original Syllabus for 7102
(Syllabus. Owner: Palazzi, Maria)
- ACCAD5200_syllabus2022_MotionCapture.pdf: New Syllabus for 5200
(Syllabus. Owner: Palazzi, Maria)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Palazzi, Maria	03/04/2022 01:46 PM	Submitted for Approval
Approved	Palazzi, Maria	04/05/2022 09:35 AM	Unit Approval
Approved	Vankeerbergen, Bernadette Chantal	04/11/2022 11:47 AM	College Approval
Pending Approval	Cody, Emily Kathryn Jenkins, Mary Ellen Bigler Hanlin, Deborah Kay Hilty, Michael Vankeerbergen, Bernadette Chantal Steele, Rachel Lea	04/11/2022 11:47 AM	ASCCAO Approval

Motion Capture Production and Experimentation

Course Number (undergrad): ACCAD 5200 , 3 credits (2 hrs 40 min contact hours/week)

Course Number (grad): ACCAD 5200, 3 credits (2 hrs 40 min contact hours/week)

Repeatable up to 6 credits or 2 enrollments.

Format of Instruction: Studio

Prerequisites: none

Meeting Days/Times: T/TR

Class Location: Sullivant Hall, room 349-a and Motion Lab

Instructor: Vita Berezina-Blackburn

Instructor contact info: berezina-blackburn.1@osu.edu, Rm 339 B Sullivant Hall

Office Hours: by appointment

Course Description:

A hands-on experience with motion capture technologies, addressing contexts and applications. Students learn to operate within an optical motion capture pipeline for recording, real-time retargeting and post-processing of full body human motion and props. Within the course structure, students are also encouraged to develop their own approaches and processes for experimenting with capturing and remapping motion. Students will read about movement research in different disciplines and reflect upon what they learn in writing.

Course Objectives:

Students will be expected to:

- recall the historical contexts and disciplines that shaped the development of motion capture technologies
- compare the advantages and disadvantages of different types of motion capture technology for various applications
- utilize the technology and process of optical motion capture in the class projects
- develop the skills to plan and direct an effective motion capture session
- build a working knowledge of motion capture and editing software to creation of their own work
- formulate and prototype cases of motion capture application in their field of practice

Course Methodology:

Students will learn through lectures, demonstrations, hands on work sessions in the motion capture studio, online video materials, assigned and recommended readings and course projects. Examples will be presented in lectures and demonstrations. Students must demonstrate satisfactory achievement of course objectives through fulfillment of course projects and by contributing to class discussions. Collaboration between students in the course and other faculty, staff and students at ACCAD is highly encouraged.

Course Software Use Requirements:

Course projects will require students to use a variety of software and equipment at ACCAD. Primary focus will be on Vicon optical T40s system, Vicon Shogun capture software, motion processing in Autodesk Motionbuilder. Face capture with iClone Motion LIVE will also be introduced. Basic treatment of motion capture data in animation software and game engines will be addressed.

Course evaluation for the undergraduates:

- Project 1. Mocap Case Study: Short Written Report and Oral Presentation, 25%
- Project 2. Performance Capture Planning and Motion Editing, 25%
- Project 3. Motion Sequence Composition, 25%
- Project 4. Open Experiment, 25%

Course evaluation for the graduate students:

- Project 1. Mocap Case Study: Short Written Report and Oral Presentation, 20%
- Project 2. Performance Capture Planning and Motion Editing, 20%
- Project 3. Motion Sequence Composition, 20%
- Project 4. Open Experiment, 20%
- Reflective Essay 20%

The course utilizes Standard OSU Grading Scheme.

Grading Policy:

All students are required to be on time and in attendance for each and every class. If not involved in a motion capture session, a student is expected to do software-based work in the classroom or open areas at ACCAD, focusing on the tutorials or projects. Students arriving to class more than 30 minutes late will be counted as absent. Two unexcused absences will lower a final grade by 1/3 a letter, three unexcused absences will lower a final grade by one letter and four unexcused absences will result in failure of the course. An absence cannot be excused if the instructor is not contacted within three days before or after the missed class with a proposed plan to make up the missed material or work. The make-up plan must be approved by the instructor.

Adherence to deadlines is expected. It is the individual student's responsibility to keep track of deadlines and to present the work during class presentation to other students

and instructor on the specified dates. The projects are due by the end of a class session on the day of the deadline. 10% of the grade per day will be subtracted from late assignments.

Technical problems may occur during the semester. Students must make their own arrangements for overcoming these difficulties and submitting their work on time. Unless there is a complete system failure at ACCAD, technical difficulties are never an acceptable excuse for not meeting a deadline. Students should plan their time and work to anticipate the technical hurdles that is a part of the computer-based practice.

Topics by week (subject to adjustments, please follow notes on Carmen)

WEEK 1

Topics:

- Overview of the history and current state of motion capture technologies.
- Studio demo: Vicon optical system and Shogun software. System calibration, principles of marker placement, capturing a performance.

Required reading:

R. Klette and G. Tee. (2008) Understanding Human Motion: a Historic Review. *Human Motion: Understanding, Modelling, Capture, and Animation*. Springer. DOI: 10.1007/978-1-4020-6693-1_1 (available on Carmen)

WEEK 2

Topics:

- Motion capture applications and research areas.
- Introduction to Autodesk Motionbuilder.

Homework:

Project 1 introduction (due in Week 3).

Mocap Case Study: Short Written Report and Oral Presentation.

Write a 500-word (undergrad)/1000 word (grad) report and create a five-minute slide presentation on one of the following topics. Students may use recommended readings for weeks 1-13, online materials and other sources they identify on their own:

a. Research and describe a case of motion capture application in film or game production. Address key elements of its process, effectiveness and/or challenges.

b. *Performance Capture: a performing artist's or actor's perspective. Based on published or personal interviews, describe the opportunities and challenges motion capture provides to an actor or a performing artist.*

c. *Research and describe a case of motion capture application in an artistic process, scientific or engineering research. Address its background, effectiveness, and challenges.*

d. *Research and describe an area of motion capture technology research. Address its background, challenges, and the current state of development.*

e. *Based on the recommended reading "The Language of Motion Capture", reflect upon the relationship between the performer and the captured data, movement and its representation from a broad philosophical perspective.*

Recommended Readings, weeks 2-5:

- Blake, R., Shiffar, M. (2007) Perception of Human Motion. *Annu. Rev. Psychol.* 2007.58:47-73. (available on Carmen)
https://www.cs.princeton.edu/courses/archive/spring08/cos598B/Readings/BlakeShiffar_2007.pdf
- Salazar-Sutil, Nicolas (2015). *The Language of Motion Capture. Motion and Representation.* pp 197-209. The MIT Press. (available on Carmen)

WEEK 3

Topics:

- Full body performance capture.
- Virtual Avatars: Metahumans, Mixamo and iClone.
- Working with Motionbuilder Character Asset: Definition and Settings.
- Understanding rigging requirements for an avatar model, skeleton and control rig.
- Planning a performance capture session.

Homework:

Project 1, Mocap Case Study: Short Written Report and Oral Presentation, due: in class presentation and discussion. Papers should be submitted via Carmen.

Project 2 introduction: Performance capture planning and motion editing.

WEEK 4

Topics:

- Editing movement with additive and override Animation Layers in Motionbuilder.
- Principles of animation and motion capture editing.

- Understanding Bernstein's levels of constructions of movement.

Homework:

Project 2 development: capture session planning, in class proposal discussion and feedback.

WEEK 5

Motion Lab: Project 2 capture sessions.

Required Reading:

Sanmiya, Jason. (2012, June/July). Move out of the Uncanny Valley. Game Developer, 17-24. (available on Carmen).

WEEK 6

Topics:

- Working with captured props.
- Augmenting captured movement with simple physics simulation.

Homework:

Project 2, Performance capture planning and motion editing, due: in class presentation and critique.

Project 3 introduction:

Motion Sequence Composition: Utilizing your Team's Motion Bank, create a sequence that blends at least five motions. If necessary, you may utilize Mixamo.com motion clips in addition to your Team's Motion Bank. Create at least one standalone motion cycle. This must be based on a clip from your Team's Motion Bank.

WEEK 7

Topics:

- Approaches to constructing motion sequences and cycles.
- Narrative, choreographic, biomechanical, psychomotor aesthetic considerations for screen and virtual reality characters.
- Working with Motionbuilder Story tool and motion blending.

Recommended Reading:

- Longwell, Todd. *How the Digital Era Is Changing How Directors Interact With Actors.* (2019, February).Variety.
<https://variety.com/2019/film/awards/directors-change-how-they->

[interact-with-actors-in-digital-landscape-1203140228/?sub_action=logged_in](https://synchronousobjects.osu.edu/media/inside.php?p=essay)

- William Forsythe (2009). *Choreographic Objects*. Synchronous Objects. <https://synchronousobjects.osu.edu/media/inside.php?p=essay>
- Anne Bogart. 2004. Viewpoints and Composition: What Are They? *The Viewpoints Book: A Practical Guide to Viewpoints and Composition*. (pp7-15) Theatre Communications Group. (available on Carmen)

WEEK 8

Topics:

- Approaches to constructing movement sequences (continued).
- Human motion in virtual reality case studies: Marceau VR and Virtual Field Lab.

Homework:

Project 3, Motion Sequence Composition, due: in class presentation and critique.

WEEK 9

Topics:

- Character animation in a gaming engine.
- Simple bipedal character animation setup in Unity and/or Unreal.

Homework:

Graduate Student Reflective Essay Introduction: Write a 500-word response to any of the recommended readings, suggested between weeks 1-12.

WEEK 10

Topics:

- Principles of face performance capture and retargeting.
- Face capture and editing with iClone Motion LIVE.

WEEK 11

Topics:

- Real-time performance capture.
- Working with a virtual camera.

Homework:

Graduate Student Reflective Essay Proposal Due, discuss in class.

WEEK 12

Topics:

- Non-figurative motion visualization.
- Objects and bodies as motion controllers, simple gesture recognition, digital puppets.

Homework:

Graduate Student Reflective Essay Due, submit on Carmen.

Project 4, Open Experiment, introduction: Open Experiment Project may involve full body performance capture, facial capture, real-time performance, non-figurative visualization, interactive application prototype, and other formats suggested by a student and approved by the instructor. Submit a proposal by Week 13.

Recommended Reading:

Searls, Collette. 2014. Unholy Alliances and Harmonious Hybrids: New Fusions in Puppetry and Animation. In Dasia N. Posner, Claudia Orenstein, and John Bell. (Eds), *The Routledge Companion to Puppetry and Material Performance*. Routledge, pp 294-308. (available on Carmen)

WEEK 13

Topics:

- Nonfigurative visualization continued.
- Project 4, Open Experiment, proposal review.
- Project 4, Open Experiment, development time.

WEEK 14

Project 4 development in lab and classroom.

FINAL: Project 4, Open Experiment, in class presentation.

References:

- Vicon (2022). *Shogun Documentation*. <https://docs.vicon.com/display/Shogun17>

- Autodesk (2022). Autodesk Motionbuilder Documentation. <https://knowledge.autodesk.com/support/motionbuilder/learn-explore/caas/simplecontent/content/autodesk-motionbuilder-documentation.html>
- Bernstein, L. (1996) *Dexterity and Its Development*. M. Latash, M. Turvey (Ed). Psychology Press.
- Hedberg Olenina, Ana. (2021) Psychomotor Aesthetics. *Movement and Affect in Modern Literature and Film*. Oxford University Press.
- Johnston, Ollie, Thomas, Frank (1981). *The Illusion of Life: Disney Animation*. Walt Disney Productions
- Kitagawa, Midori, Windsor, Brian (2008). *Mocap for Artists. Workflow and Techniques for Motion Capture*. Elsevier.
- Salazar-Sutil, Nicolas (2015). *Motion and Representation*. The MIT Press.
- D.N.Posner, C.Orenstein, J. Bell (Ed). (2015). *The Routeledge Companion to Puppetry and Material Performance*. Routeledge.

Academic Misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

Accommodations for Students with Disabilities

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make

arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Mental Health:

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614--292--5766. CCS is located on the 4th Floor of the Younkun Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614--292--5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1--800--273-TALK or at suicidepreventionlifeline.org.

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator at titleix@osu.edu

Diversity

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

Students who are enrolled in ACCAD classes should have the following **24/7** (all the time) door access.

This is especially important **after 5:30 PM** when building doors start locking:

1. **NORTH EXTERIOR** door (near Cartoon Research Library entrance)
2. **ELEVATOR Card Swipe** access to 3rd floor: via SW Freight & NW Elevator
3. **3rd Floor CORRIDOR** (doors outside ACCAD main office). These doors lock at 6:00 PM.
4. **3rd Floor CORRIDOR entrance to CLASSROOM** area (Lenel swipe into 345 area).
5. **ACCAD Research area** (computer lab area 347) - now open all the time.

***** For **Visitors** who do not have BUCK-ID access *****

EXTERIOR DOORS:

North: Cartoon Research Library: 7:00a – then open after 5:30p for Classroom Pool use.

East: High Street: 7:00am-5:30pm

West (south): dumpster area: 7:00am-5:30pm

West (north): always locked

Loading Dock: Locked all the time (Dept contact list with phone#s will be listed)

***Note*:** all exterior doors will have signs directing visitors to the **NORTH** entrance after 5:30pm

CORRIDOR DOORS:

1st Floor (corridor):

South: Loading Dock: 7:00am-5:30pm

South: Barnett: M/T/W/F: 7:00am-5:30pm, Th 7:00am-7:15pm

2nd Floor (corridor):

South: Arts Administration & Education: 7:00am-7:15pm

North: Schultz Classroom area: 7:00am-7:15pm (provides access to Schultz Classroom)

North: Dance Studios: 7:00am-7:15pm

3rd Floor (corridor):

South: ACCAD: 8:00am-6:00 pm

North: Dance: 7:00am-7:15pm

Motion Capture Production and Experimentation – SPRING 2016

Course Number: ACCAD 7102, 3 credits
Prerequisites: graduate standing or permission of instructor
Meeting Times: T, TR 2:20pm-3:40pm
Class Location: Sullivant Hall, room 349-a and Motion Lab

Course Description:

This course provides a survey of motion capture and virtual production concepts and technologies. It focuses on the optical motion capture pipeline for recording, real-time retargeting and post-processing of full body human motion and props. Students are encouraged to develop their own methods and processes for experimenting with capturing and remapping motion as well as write about their work.

Course Objectives:

Students will be expected to:

- understand the history of motion capture and current contexts of movement research
- understand the technology and process of optical motion capture
- develop understanding of virtual production paradigm
- develop the skills to direct an effective motion capture session
- acquire working knowledge of software used in capturing and processing data
- acquire working knowledge of motion editing
- be able to apply motion capture data or real-time motion tracking in a way relevant to their field

Course Methodology:

Students will learn through lectures, demonstrations, hands on work sessions in the capture lab, online video materials, assigned readings, through capturing and processing their own data. Examples will be presented in lectures and demonstrations. Students must demonstrate satisfactory achievement of course objectives through fulfillment of course projects and by contributing to class discussions. Course projects will require students to use a variety of software and equipment at ACCAD. Primary focus will be on Vicon optical T40s system, Vicon Blade 2.7.1, Autodesk Motionbuilder 2015. Face capture with Faceware Tech will also be introduced. Data treatment in Autodesk Maya is supported but not covered in class. Working in Unity via Pegasus will be allowed but not supported. Access to Digital Tutors videos will be provided. Collaboration between students in the course and other faculty, staff and students at ACCAD is highly encouraged. Course evaluation will be based on the following:

Project 1:	20%
Project 2:	20%
Project 3	20%
Project 4:	20%
Final Project	20%

Class Participation is expected. Failure to contribute to class discussions and work collaboratively may result in grade reduction.

Grading Policy:

All students are required to be on time and in attendance for each and every class. If not involved in a lab session, a student is expected to do software based work: tutorials or projects. Students arriving to class more than 15 minutes late may be counted as absent. Two unexcused absences will lower a final grade by 1/2 a letter, three unexcused absences will lower a final grade by one letter and four unexcused absences will result in failure of the course.

Adherence to deadlines is expected. It is the individual student's responsibility to keep track of deadlines and to present the work during class presentation to other students and instructor on the specified dates. The projects are due by the end of a class session on the day of the deadline. 10% of the grade per day will be subtracted from late assignments.

Technical problems may occur during the semester. Students must make their own arrangements for overcoming these difficulties and submitting their work on time. Unless there is a complete system failure at ACCAD, technical difficulties are never an acceptable excuse for not meeting a deadline. Students should plan their time and work so as to anticipate the technical hurdles that is a part of the computer based practice.

The course utilizes Standard OSU Grading Scheme.

Academic Misconduct (rule 3335-31-02) is defined as “any activity which tends to compromise the academic integrity of the institution, or subvert the educational process.” Please refer to rule 3335-31-02 in the student code of conduct for examples of academic misconduct.

Topics by week (subject to fluctuation, please follow notes at <http://accad.osu.edu/~vberezin/classes/mocap>)

1. 01/12-14

Discussion of ways to observe and study movement.
History of Motion Capture Technology.

Assignment: study resources on

<http://accad.osu.edu/~vberezin/classes/mocap/notes1.html>

2. 01/19-21

Classroom: Motion capture applications at large and ACCAD projects.
Introducing Project 1: Simple Props and Cameras.
Motion Lab: Realtime projects and lab demo.

Reading Assignment:

Mark Coniglio. Conclusion: Reflections, Interventions, and the Dramaturgy of Interactivity.

Project 1 assignment: prepare proposal.

2. 01/26-28

Classroom: Introduction to Autodesk Motionbuilder elements, cameras and animation, Project 1 proposal review.
Motion Lab: Vicon system setup, calibration and prop capture.

Digital Tutors assignment: [Introduction to Motionbuilder 2014](#)

REQUIRED: 01/26, 7:15pm, rm 220 Sullivant Hall - - attendance of public lecture by [Marc Coniglio](#), author of Isadora realtime media performance software, Troika Ranch

4. 02/02-04

Motion Lab: Project 1 capture sessions.

5. 02/09-11

Classroom: Virtual motion complexity: setting up for multi-segment props and digital puppets in Vicon Blade and Autodesk Motionbuilder.

Digital Tutors assignment: [Introduction to Motionbuilder 2014](#)

6. 02/16-18

Classroom: Building motion complexity (continued): Constraint Assets.
Introducing Project 2: Complex Props.

Project 1, Simple Props and Cameras due: class presentation on 2/18.

7. 02/23-25

Classroom: Project 2 proposal discussion.

Introduction to Human Motion: marking scheme, file templates, capture pipeline, data quality (Vicon Blade).

Reading Assignment: Blake, R., Shiffar, M. Perception of Human Motion.

Read online at

https://www.cs.princeton.edu/courses/archive/spring08/cos598B/Readings/BlakeShiffar_2007.pdf

8. 03/01-03

Project 2 capture sessions.

9. 03/08-10

Classroom: Introducing Project 3 and Project 4: Human Motion Editing. Sequence Editing.

Postprocessing human motion: skeletal remapping, retargeting and contact (Motionbuilder).

Project 2, Complex Props, is due: class presentation on 3/10

-----03/15-17-----Spring Break-----

Email Proposals for Human Movement Capture (Projects 3 and 4)

10. 03/22-24

Motion Lab: Project 3 and 4 capture sessions.

11. 03/29-31

Classroom: Post-processing human motion: motion accuracy and expressiveness.

Motion sequence editing: blending and looping clips.

Assigned reading from Class Resource folder on ACCAD Network:

MocapMotionEditing.pdf

Project 3, Human Motion Editing is due: class presentation on 03/31.

12. 04/05-07

Classroom: Previsualization and Virtual Production.

Digital Tutors: [Previsualization Techniques in Motionbuilder.](#)

Project 4, Sequence Editing, is due: class presentation on 04/07.

13. 04/14-16

Motion Lab and Classroom: Facial Tracking, Capture and data editing.

Final Proposal due.

Final project development in lab and classroom.

14. 04/21-23

Final project development in lab and classroom.

FINAL PRESENTATION: 2-3:45 pm, 4/27 in MOCAP LAB and CLASSROOM.

References:

- Vicon Blade Documentation
- Motion Builder 2015 User Guide. Autodesk, 2015.
- Kitagawa, Midori, Windsor, Brian. Mocap for Artists. Workflow and Techniques for Motion Capture. Elsevier, 2008.
- Ed. Sutil, Nicolas Salazar, Popat, Sita. Digital Movement: Essays in Motion Technology and Performance. ISBN:
- Zatsiorsky, Vladimir. Kinematics of Human Motion. ISBN: 0-088011-676-5
- Zatsiorsky, Vladimir. Kinetics of Human Motion. ISBN: 0-7360-3778-0

Academic Dishonesty

Any and all suspected cases of academic dishonesty will be dealt with according to university procedures. Students are referred to the student handbook for further information on academic dishonesty and the accompanying procedures and penalties.

Students can read the code of student conduct at:

http://studentaffairs.osu.edu/resource_csc.asp

Personal Safety

The University Escort Service operates until 3am when classes are in session (i.e. not during quarter breaks and University holidays), and will assist OSU students who live off campus as well as on campus. The University Escort Service can be contacted at 614-292-3322, and scheduled pick-ups are taken in advance.

Accommodations for Students with Disabilities

It is the intent of the University and its instructors to provide access to support services and programs that enable students with disabilities to succeed in this course. Students with disabilities are responsible for making their needs known to the instructor and seeking available assistance in a timely manner. Students will be referred to the Office for Disability Services (ODS), located in Pomerene Hall, for further assistance (call 614-292-3307 or visit 150 Pomerene Hall).

Students who are enrolled in ACCAD classes should have the following **24/7** (all the time) door access.

This is especially important **after 5:30 PM** when building doors start locking:

1. **NORTH EXTERIOR** door (near Cartoon Research Library entrance)
2. **ELEVATOR Card Swipe** access to 3rd floor: via SW Freight & NW Elevator
3. **3rd Floor CORRIDOR** (doors outside ACCAD main office). These doors lock at 6:00 PM.
4. **3rd Floor CORRIDOR entrance to CLASSROOM** area (Lenel swipe into 345 area).
5. **ACCAD Research area** (computer lab area 347) - now open all the time.

***** For Visitors who do not have BUCK-ID access *****

EXTERIOR DOORS:

North: Cartoon Research Library: 7:00a – then open after 5:30p for Classroom Pool use.

East: High Street: 7:00am-5:30pm

West (south): dumpster area: 7:00am-5:30pm

West (north): always locked

Loading Dock: Locked all the time (Dept contact list with phone#s will be listed)

***Note*: all exterior doors will have signs directing visitors to the NORTH entrance after 5:30pm**

CORRIDOR DOORS:

1st Floor (corridor):

South: Loading Dock: 7:00am-5:30pm

South: Barnett: M/T/W/F: 7:00am-5:30pm, Th 7:00am-7:15pm

2nd Floor (corridor):

South: Arts Administration & Education: 7:00am-7:15pm

North: Schultz Classroom area: 7:00am-7:15pm (provides access to Schultz Classroom)

North: Dance Studios: 7:00am-7:15pm

3rd Floor (corridor):

South: ACCAD: 8:00am-6:00 pm

North: Dance: 7:00am-7:15pm