

Delivering Virtual Labs In Rehabilitative Sciences During COVID-19

Strategies and Instructional Cases



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UNIVERSITY OF
ST. AUGUSTINE

FOR HEALTH SCIENCES

Mission Statement

The mission of the University of St. Augustine for Health Sciences is the development of professional health care practitioners through innovative, individualized, and quality classroom, clinical, and distance education.



San Marcos, California



St. Augustine, Florida



Austin, Texas



Miami, Florida



Dallas, Texas

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The USAHS Active Learning Approach



Educational Technologies



Modern Learning Spaces



Clinical Simulation Labs



Dynamic Blended Learning



Student Success Focus



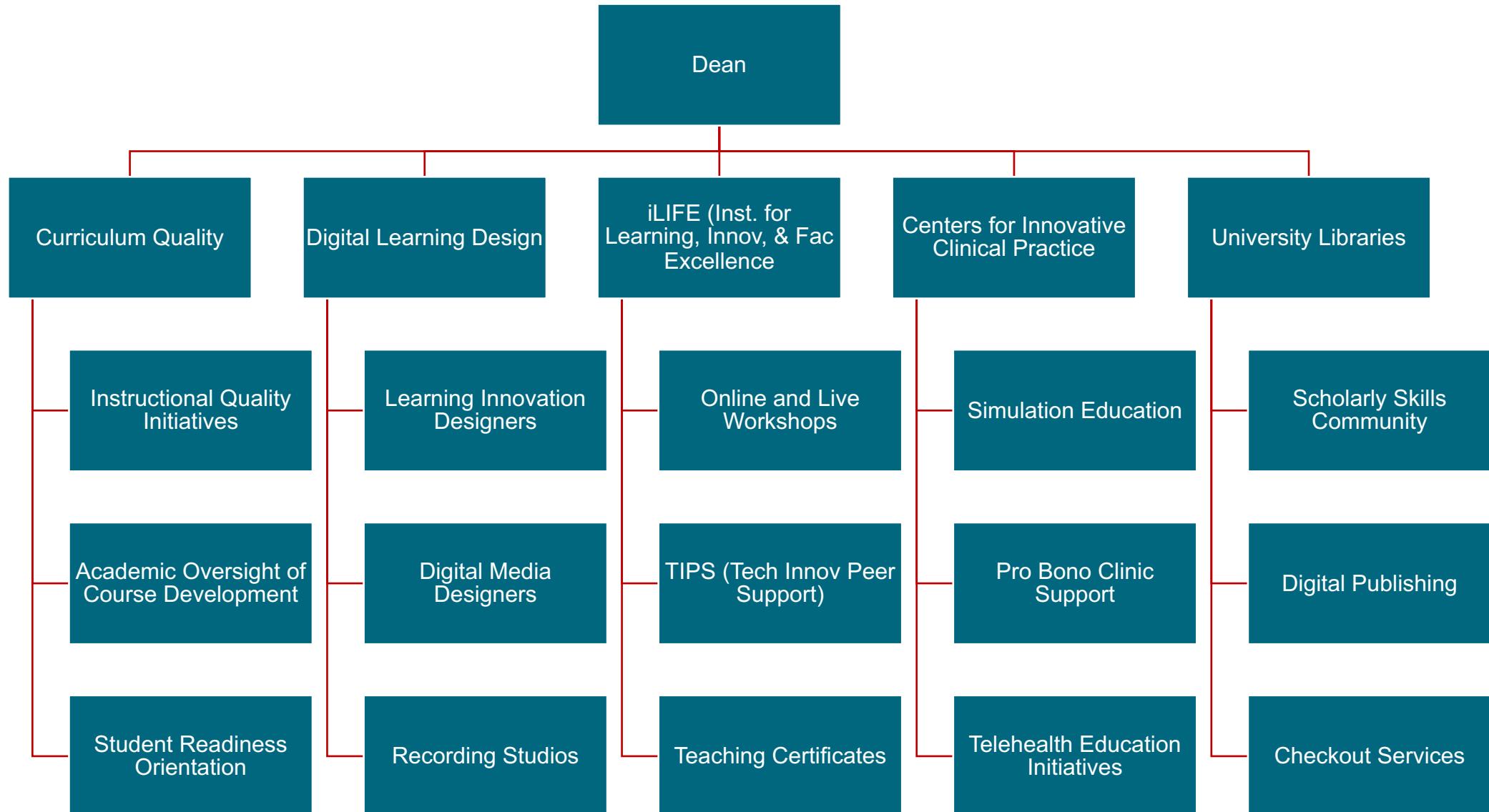
National Faculty Network



UNIVERSITY OF ST. AUGUSTINE FOR HEALTH SCIENCES

USAHS 2020 Achievements

The Teaching, Learning and Innovation Team



COVID-19 Strategies

When we pivoted to virtual learning, we were already well-prepared. The challenge was how to deliver the hands-on, immersive lab learning experiences online.

1

Leverage
Instructional
Design and Video

2

Make the
Collective Mantra
Active Learning

3

Amplify
Multimodal
Faculty Support

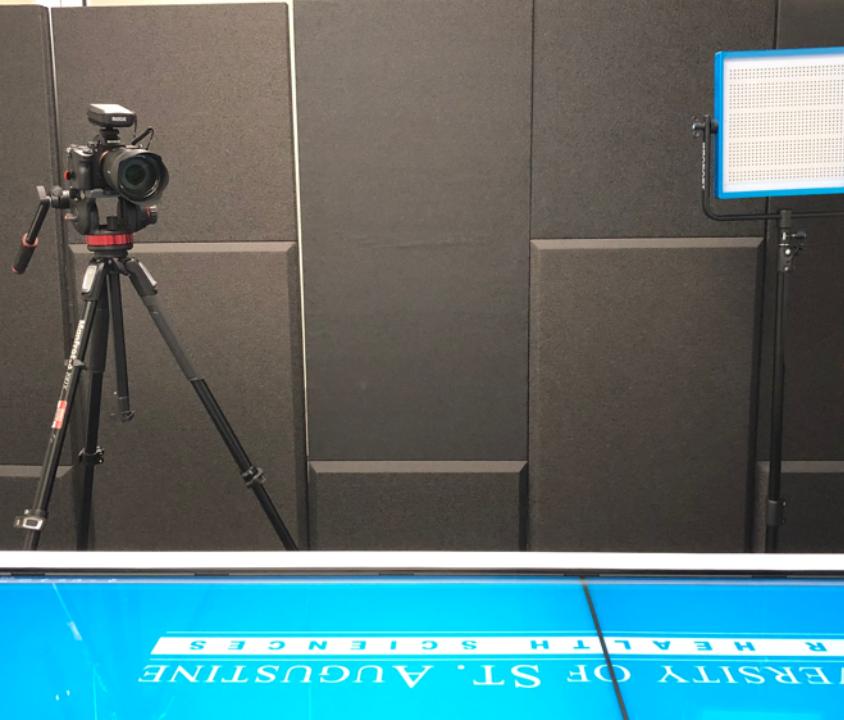
4

Live and Breathe
the “Innovation
Culture”

Instructional Design and Video

Virtual Lab Demo Videos

Partnered with faculty to create new lab demo videos to share across the USAHS network.



Video Editing Services

Faculty submit video for professional editing and production services.



Faculty Tech Kits

Deployed to faculty kits including a Logitech camera, Yeti mic, light ring, and tripod.



Active Learning @ USAHS During COVID-19

Brought Labs TO Students

- 398 videos produced (technique demos, labs, interview style, digital lectures)
- 394 multimedia assets developed (interactive exercises, slide lectures)
- 2,250 Lab Kits mailed for PT and 386 for OT
- 3D printed 1,500 anatomical vertebrae

Launched “V-Sim”

- Created 143 simulation videos
- 151 telehealth simulations delivered
- Provided access to over 300 scenarios with over 70 hours of media

Added New Tools and Resources

- Added [Respondus](#)
- Added [GoReact](#)
- Added LinkedIn Learning
- Delivered 60+ [faculty sessions](#), with 1,531 attendees between March 17 - June 24, 2020

Kept Students Engaged

- Library delivered 34 Virtual Events in May & June and launched 2 new [digital exhibits](#)
- Launched [faculty lecture series](#), with 500+ attendees across 8 sessions
- Placed 98% of students in clinicals
- Launched a telehealth pro bono clinic for SLP students

Faculty Support



Institute for Learning, Innovation, and Faculty Excellence

Home Our Team Mission and Goals Faculty Resources ▾ TIPS CICP Edit

+ New ▾ Page details

Teaching Resources

...

Live Workshop Schedule and Sign-Up

On-Demand Workshop Recordings

Blackboard Digital Learning Modules

Technology Innovation Peer Support (TIPS)

Teaching Resources

Welcome New Faculty!

Campus Instructional Support Contacts

Digital Media Service Request

New Faculty Teaching Circles

LinkedIn Learning: Online Training Courses for Creative, Technology, Business Skills

Simulation IQ

University of St. Augustine Library

USAHS Graphics, Logos

Upcoming Spring 2021 Events (Eastern Standard Time)

[See all](#)

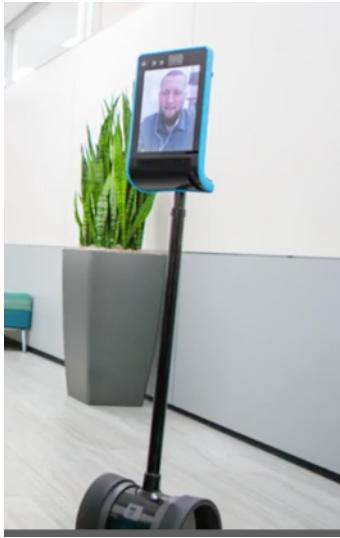
+ Add event

Using Mentimeter for Engagement in Classroom Activities
Tue, Mar 2, 1:00 PM

MAR 2
How Did Mayo Cope? Pandemic Creates Demand for Substitution of In-Person to Tue, Mar 2, 2:00 PM

The USAHS Innovation Culture

The USAHS Innovation Steering Committee (ISC) evaluates and supports innovations that advance the University's goal to prepare future-ready healthcare practitioners. We accept proposals for pilots that enrich learning, the student experience, and clinical readiness.



Our innovation approach is evidence-based, interprofessional, collaborative, and focused on preparing clinicians of the future!

We scan our internal and external environments, take measured risks, and use data to forge the path forward!

Case 1: Virtual Lab Kits for Home Fabrication of Orthoses

Dr. Debbie Ruediger, St. Augustine Campus

OCT 5330C OT Methods I: Assistive Technology



Students were challenged with fabricating five orthotics at home as part of a virtual, synchronous, hands-on lab session.

Items were ordered, assembled, and then volunteer Teaching, Learning and Innovation staff on each campus coordinated and collaborated to pack and mail the “kits” to students.

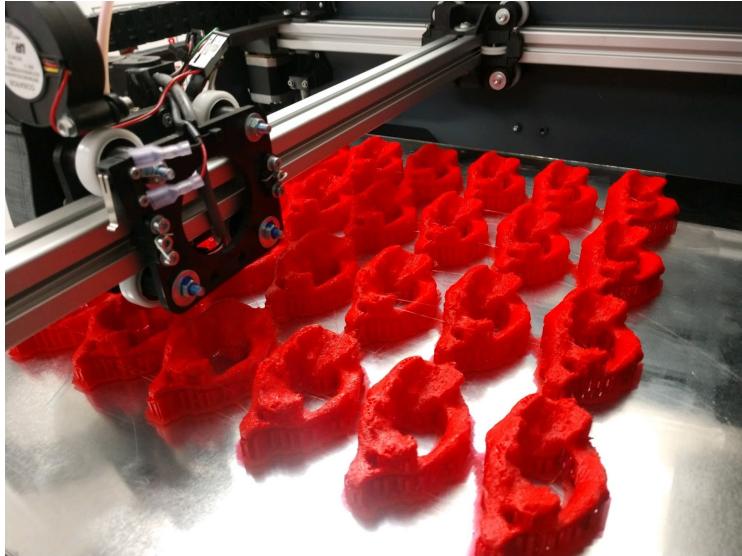
Students reviewed the instructional videos created by the Digital Learning team before the lab.

During the synchronous lab session, faculty first demonstrated the fabrication objectives and methods to the entire course.

Then, using the breakout room feature of RingCentral/Zoom, students divided into their groups and were provided direct live feedback and step-by-step advice on fabricating their own orthotics by the supervising lab assistants

Case 2: 3-D Printing of Anatomic Models

Dr. Gabe Somarriba, Miami Campus,
PHT 5121C Gross Anatomy I



Gross anatomy courses commonly have objectives that include the identification of structures on plastic models.

Since students could not be on campus to use the models and time and cost prevented purchase of models, we 3D printed 1,500 vertebrae and mailed them to students.

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Students used models during a) synchronous lab sessions, b) student self-recordings, c) and for study.

Case 3: Using GoReact for Formative Assessment of Psychomotor Skills

Dr. Ryan Reed, Miami Campus

PHT 5350C Musculoskeletal II: Extremity



As Physical Therapy faculty moved to a virtual environment, the need arose for ways to provide students feedback on psychomotor skills.

While there was a time during virtual lab sessions for feedback on psychomotor skills, the camera angles were not always clear, and students did not always have a partner to practice with during the scheduled lab time.

The student records a short video clip of a psychomotor skill, uploads the video to GoReact, and faculty can access the video to review and provide comments.

GoReact allows the instructor to stop the student video clip of the psychomotor skill and add text or video feedback at critical moments in the performance of the psychomotor skill.

Case 4: Using GoReact for Summative Assessments / Lab Practicals

Dr. Tobi Baldwin, St. Augustine Campus

PHT 5250C Musculoskeletal I: Introduction to Orthopedic Physical Therapy



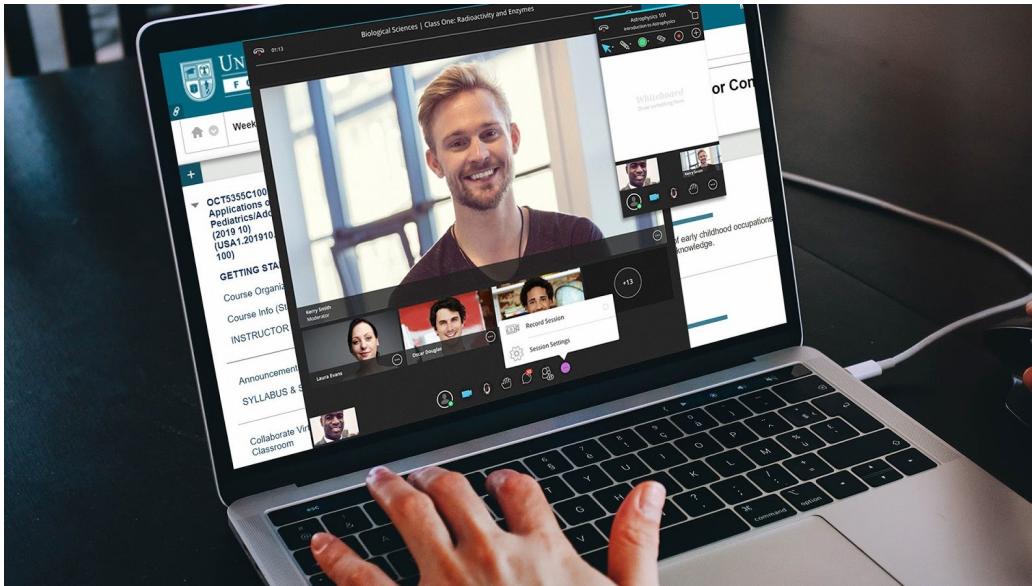
GoReact was used as a summative assessment tool to simulate practical exams using both an asynchronous and a synchronous approach.

Asynchronous approach: on the day of the practical exam, student groups logged in at a specific time to receive the list of skills to be tested and were given 30 minutes to record and upload videos to GoReact of the required skills.

Synchronous approach: Students logged into a live session, setup their cameras and performed skills for the instructor. Written and oral feedback was time-stamped for student to review and save.

Case 5: Telehealth Focused Virtual Simulation

Dr. Kelly Layne, St. Augustine Campus and Ms. Elizabeth DeLuca, Austin Campus
OCT 5425C Clinical Applications in Geriatrics



During COVID-19, simulated learning experiences that were previously done face-to-face in the Clinical Applications in Geriatrics course needed to be transitioned to a virtual format to continue the use of simulation across the curriculum.

This two-part telehealth simulation was run as a case conference. A video of the case conference was created by the Center for Innovative Clinical Practice (CICP) staff in collaboration with the Digital Learning Design team.

Students reviewed the video and case specifics, such as electronic health records using EHRGo for standardized participants, and then were a part of a synchronous web-conferencing session using Zoom.

The case conference was simulated by the Occupational Therapy faculty and students and student volunteers playing the roles of Physical Therapists, Nurses, a Medical Doctor, and a Social Worker, and interacting with standardized patients.

Case 6: Virtual COVID-19 Patient Case Simulation Using the Double Robot

Dr. Norman Belleza and Dr. Jim Mathews, San Marcos Campus

PHT 5430C Patient Care Management II



This virtual simulation integrated the use of the Double Robot, synchronous web conferencing using Blackboard Collaborate, and collaboration with the Digital Learning Design team to create original pre-brief video for the scenario.

Two PT faculty and a standardized patient live-streamed video from campus to students.

The scenario was run from the inpatient ward and other areas of the simulation center to simulate an acute care setting in a COVID-19 scenario.

Students logged into a synchronous session and watched the Double Robot perspective (representing PT 1 treating the patient in a telehealth context), as well as other camera perspectives (PT 2 who was treating the patient in the acute care setting).

A final debrief was conducted during which students could critique faculty performance in their simulated roles as Physical Therapists treating the COVID-19 patient to assess whether they identified the intentional errors embedded into the scenario.

Aligning with the New Normal

The New Normal: Key Drivers	Areas of Strategic Focus
1. Course Design: Emphasis on "learner experience design" rather than content.	Instructional design innovations , technologies for interaction and deep engagement , including virtual reality, enhanced at-home video capability for two-way video demonstration and feedback, expanded digital resources.
2. New Faculty Skills: Quick shifts, critical thinking, creativity and a seamlessly blended, technology-reliant toolkit.	iLIFE delivers certificates and targeted mentoring for teaching excellence aligned with USAHS learning model.
3. Hybidity: Continuity between virtual and physical spaces is critical.	New types of innovative active learning classroom environments with a more defined “blend” for online and physical lab time/space.
4. Students Demand Value: Students are more value-conscious of the virtual experience as reliance on f2f time declines.	Quality assurance initiatives: QA standards and monitoring, peer culture of quality, defined team-teaching roles.
5. Telehealth: Telehealth was nascent, but now a necessary skill of the future healthcare workforce. New future clinical skills emergent that require high levels of digital literacy and creativity.	Curricular integration of telehealth. Innovation Steering Committee exploring new technologies and approaches to prepare future clinicians.

<https://www.menti.com/gzv7t1eaci>

