

April 1, 2019

**UFCD Curriculum Committee Proposal:**

- 1) Exclude class activities/assignments from the CEU count.
- 2) Increase the 4DN Year from 6 CEU's to 10 CEU's.
- 3) Increase the 4DN Year from 2 online course hours to 4 online course hours.
- 4) Include the goal of this expectation to provide a translational pathway for lifelong learning on the elective webpage.
- 5) Include additional UFCDE opportunities on the Elective webpage, "Students may also participate in selective clinical workshops at 50% of the regular course fee if they also cover the clinical supply cost for the course. **This is only done if there are unfilled places in the course one week before the course date and approved by the CE Office.**"
- 6) Auto-generate student reminders each semester to all classes.

**Background:** [Continue Education requirement for graduation](#)

The Continue Education requirement for graduation are 12 CEUs (6 in junior year and 6 in senior year) is equal to 12 clock hours or the equivalent of two full days of CE courses.

CEUs in excess of the 6 hours required in the junior year cannot be used to satisfy the requirements of the senior year. You may elect to acquire 2 of your 6 required CEU's each year in an online format.

The goal of this expectation was to provide a translational pathway for lifelong learning.

Students have begun receiving CEU credit for course assignments. Examples:

DEN7018: Spring Synergy 2-6 hours

DEN8018: Spring Synergy 2-6 hours

DEN8321: Professionalism Day -5 to 6 hours

Class assignments, which provide CEU's defeats the purpose of this lifelong learning goal.

Date \_\_\_\_\_

Check one:

<input type="checkbox"/>	New Elective
<input type="checkbox"/>	Elective Renewal
<input type="checkbox"/>	Elective Modification

Course Title \_\_\_\_\_

Department \_\_\_\_\_

Course Director \_\_\_\_\_

Department Chair Approval: \_\_\_\_\_ YES \_\_\_\_\_ NO

Elective type (check all that apply):

<input type="checkbox"/>	lecture	<input type="checkbox"/>	research	<input type="checkbox"/>	intramural
<input type="checkbox"/>	laboratory	<input type="checkbox"/>	independent	<input type="checkbox"/>	extramural
<input type="checkbox"/>	clinical	<input type="checkbox"/>	Grad seminar	<input type="checkbox"/>	international

\_\_\_\_\_ Other, describe \_\_\_\_\_

Recommended Class Year: (check all that apply):

<input type="checkbox"/>	1DN	<input type="checkbox"/>	2DN	<input type="checkbox"/>	3DN	<input type="checkbox"/>	4DN
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Number of students: Maximum \_\_\_\_\_ Minimum \_\_\_\_\_

Entry level prerequisite \_\_\_\_\_

Student hours required

	Day	Evening	Weekend	Holiday/ Break Week	
Lecture/seminar					
Independent study					
Laboratory					
Clinical					
<b>HOURS</b>					<b>TOTAL HOURS</b>

Elective semester offering: \_\_\_\_\_ one time \_\_\_\_\_ recurring

Beginning date/semester \_\_\_\_\_ Completion date/semester \_\_\_\_\_

Elective Description: *(For additional space please request an ECO course be created for elective development)*

Course Goal

Outline

Methodology/Activity planned:

Evaluation mechanism / Criteria:

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*Send completed form as pdf to the Office of Education, [gmitchell@dental.ufl.edu](mailto:gmitchell@dental.ufl.edu)*

Curriculum Committee Approval date \_\_\_\_\_ Credit hours assigned \_\_\_\_\_

*The Foundation for The Gator Nation*

An Equal Opportunity Institution

## 2019 Technology Fee Concept Proposal

**Title:** 21<sup>st</sup> Century 3D Tools to Learn and Teach Anatomy

**Proposers:** Health Science Center Libraries Digital Health Technology Team

**Contact:** Sarah Meyer, [sarah.meyer@ufl.edu](mailto:sarah.meyer@ufl.edu), 352-273-5559, 1600 SW Archer Rd. Gainesville, FL 32610

**Sponsoring Organization:** George A. Smathers Libraries

### **Purpose and Specific Objectives:**

The George A. Smathers Libraries requests \$163,137 to purchase three-dimensional (3D) visualization and examination tools to enhance students' learning experience in anatomy. Anatomy is a foundational area of knowledge across life science disciplines and UF requires anatomy courses for numerous undergraduate, graduate and professional degree programs across campus. These funds will be used to purchase Primal Pictures anatomy software and Anatomage virtual dissection table.

Primal Pictures ([https://primalpictures.com/primal/the\\_primal\\_story/index.html](https://primalpictures.com/primal/the_primal_story/index.html)) is a web-based 3D anatomy software. Purchase of a perpetual license will provide students in departments and colleges across the UF campus who have an interest in human anatomy with access to a powerful anatomical suite of 3D computer images, MRI scans, cadaver dissection slides, pathology specimens, and educational videos. Primal Pictures is one of the rare anatomy resources to include an entire suite of dental visualizations, which will be a key resource for the students in UF's College of Dentistry.

The Anatomage Table 6 (<https://www.youtube.com/watch?v=F9MQURbmhfs>) is a 3D virtual dissection system which includes human and animal models. This virtual dissection system is the most technologically advanced anatomy visualization system for anatomy education and is being adopted by many of the world's leading medical schools and institutions. It has been featured on the TEDTalks, PBS, and Fuji TV, for its innovative approach to anatomy presentation. The Anatomage table will be housed in a public space for learning on UF campus – the Health Science Center Library. This will allow access by all students and faculty without restrictions that will occur if this innovative device were housed in a single academic department.

The device, modeled after an operating room table will be available in the Health Science Center Library's new Biomedical Information Teaching Space (BITS) to integrate the power of 3D anatomy images into courses and to enhance the anatomy learning experience. BITS is a new, state-of-the-art teaching facility equipped with fifty computer workstations, two large projector displays, and four Airmedia-capable large-screen monitors. The BITS space is accessible to all students on campus and can be reserved through the online system. The Anatomage Table can interface with Airmedia to display on the large-screen monitors in BITS to provide innovative teaching opportunities. The workstation computer connected to the Anatomage will include software to expand the use of the Anatomage programs. Features of Anatomage Table include:

- 2D radiology images (e.g. CT and MRI scans), which can be used to 3D visualizations for clinical and educational experiences.
- Medical Design software, which allows for conversion of 2D images to 3D. These 3D images interface with 3D printers which allow students and faculty to print custom 3D anatomical objects using the Libraries' 3D Print Service.

- Over 1,300 clinical and veterinary case studies, histology and embryo scans. FDA-approved medical imaging software that can be utilized to annotate, segment, or overlay medical devices onto patient scans.
- Interfaces with Zoom and Camtasia which allows for screen capture and recording of short video clips that can be integrated into lecture and laboratory exercises.

**Impact/Benefits:**

The project team anticipates students and faculty will use this technology to:

- Study 3D visualizations of complex anatomical structures;
- Dissect and evaluate complex anatomical structures using high-quality 3D renderings; and,
- Access thousands of annotated structures demonstrating the variation in anatomical structures in both animals and humans

Several U.S. health science colleges have integrated 3D anatomy tools into student’s educational experiences. The purchase of these tools assures UF remains competitive by offering the newest and most innovative tools to enhance learning experiences. These tools can be used in recruitment as well as integrated into curricula. Studies indicate the use of 3D anatomical visualization compared to other techniques results in improvements in factual knowledge, spatial knowledge acquisition, and user satisfaction. <sup>1</sup>

Thousands of students in the 49 courses (<https://guides.uflib.ufl.edu/dentalresearch/3DAnatomy>) offered that include an anatomy component would be able to take advantage of the 3D educational possibilities of these anatomy resources. Students in these departments and college programs enroll in anatomy courses:

- Animal Sciences
- Anthropology
- Applied Physiology and Kinesiology
- Art
- Arts and Medicine
- Biological Sciences
- Biomedical Engineering
- Dentistry
- Dietetics
- Emergency Medicine
- Graduate Medical Sciences
- Health Sciences
- Nutritional Sciences
- Occupational Therapy
- Pharmacy
- Physical Therapy
- Speech Pathology and Audiology
- Veterinary Medicine
- Zoology

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<sup>1</sup> Yammine, K. & Violato, C. (2014) A meta-analysis of the educational effectiveness of three-dimensional visualization technologies in teaching anatomy. *Anat Sci Educ*. Doi:10.1002/ase.1510

Additionally, new UF masters and PhD programs in Anatomical Sciences Education are being implemented this year through a collaboration of the College of Medicine and College of Education, one of only four such programs in the United States.

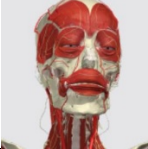

**Sustainability:**

A perpetual license to purchase Primal Pictures ensures this resource will be readily available for current and future students enrolled in anatomy courses at the University of Florida. There are no recurring costs associated with this one-time purchase. The Health Science Center Library has committed to cover recurring maintenance costs, extended warranty agreement with an annum cost range from \$8,160 to \$18,360 and any infrastructure upgrades needed such as port drops/activation for the Anatomage Table.

**Timeline:**

Time	Activities
Receipt of funds : August 2019	<ul style="list-style-type: none"> <li>• Purchase Primal Pictures and Anatomage Table</li> <li>• Coordinate with Library Facilities and Library IT to identify any power or network needs</li> </ul>
September 2019	<ul style="list-style-type: none"> <li>• Coordinate with Acquisitions &amp; Collections and Library IT to add Primal Pictures into all library web-based catalogs</li> <li>• Develop marketing materials</li> <li>• Coordinate with Library IT, Library Facilities, and Anatomage vendor to map out an installation schedule</li> </ul>
September 2019- February 2020	<ul style="list-style-type: none"> <li>• Install Anatomage Table</li> <li>• Train library staff and faculty of anatomy courses across UF on use of Primal Picture and Anatomage Table</li> <li>• Outreach and promotion to students, staff, and faculty</li> <li>• Development of Library Workshops on using 3D anatomy resources</li> </ul>

**Budget:**

Technology	Image	Costs Include	Cost
1 Primal Pictures		Perpetual license	\$90,000
1 Anatomage Table		Shipping, 1st Year Warranty, Software Upgrade, Tech Support	\$71,475
1 Anatomage protective cover		Protective cover	\$250
1 Dell workstation		Optiplex 7050 500 GB workstation	\$1,052
1 Dell monitor		Dell 27 Monitor : P2719H	\$360
<b>Total Cost</b>			<b>\$163,137</b>

**Technology Fee Full Proposal Template Sponsor Signature Form**

**Title:**

**Proposer's Name:**

**Note: By signing this form the sponsor is making a commitment to support the project. This may include providing startup, recurring or equipment replacement resources as presented in the attached budget.**

**Signature of sponsor: College Dean, or Unit Director, or VP for Student Affairs.**

\_\_\_\_\_

**Name and Title**

\_\_\_\_\_

**Date**

**Note: By signing this form the UF IT unit is making a commitment to manage the project if selected for submission of a full proposal. This may include providing startup, recurring or equipment replacement resources as presented in the attached budget.**

**Signature of managing unit administrator:**

\_\_\_\_\_

**Name and Title**

\_\_\_\_\_

**Date**

## Curriculum Committee: Tentative Dates (July 2019 – June 2020)

2019	Notes
July 11	
Aug. 1	
Sept. 5	Labor day Sept. 2
Oct. 3	Homecoming Oct. 11 / fall break Oct. 21-25
Nov. 7	Vet's Day Nov. 11
Dec. 5	Winter break Dec. 20 – Jan. 5
2020	
Jan. 9 or 16	Classes begin Jan. 6 / MKL holiday Jan. 20
Feb. 6	
Mar. 12	Spring break Mar. 2-6
Apr. 2	
May 7	Semester break Apr. 27 – May 1
June 4	