

Mary McDade

University of Northern Iowa
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EDUCATION

Oregon State University, M.S. Botany, 1987. Corvallis, Oregon. Summa cum laude

Florida State University, B.S.N., Nursing, 1985. Tallahassee, Florida. Magna cum laude

University of West Florida, B.S., Biology, 1979. Pensacola, Florida. Summa cum laude

PROFESSIONAL EXPERIENCE

Instructor

8/90 -present

Department of Biology, University of Northern Iowa

Teach lecture and laboratory sections of several courses in biology, including non-majors biology courses and Anatomy and Physiology I and II. Design and teach individualized Anatomy and Physiology I and II course for biology majors and pre-nursing students, with greater clinical emphasis in the pre-nursing courses. Plan, evaluate, and revise course content, course materials, assignments, and methods of instruction as needed.

Coordinate and supervise multiple lab sections of Anatomy and Physiology I and II labs (for majors and pre-allied health students) and non-majors labs (typically coordinate a total of 20-24 labs for three different courses each semester).

Supervise cooperative education students involved in professional work and volunteer experiences related to Anatomy and Physiology and their personal professional goals.

Design, develop, and update comprehensive lab manuals for non-biology majors and Anatomy and Physiology I and II labs, including new lab manual with SynDaver anatomy.

Clinical Nursing Instructor

4/90-12/90

Hawkeye Community College. Waterloo, Iowa

Supervised nursing students in clinical experiences in obstetrics, gynecology, nursery, and pediatrics. Supervised students in direct patient care, assessed student progress, and performed final student evaluations. Supervised and assisted students in nursing labs in performing and perfecting nursing skills.

Clinician, Registered Nurse

6/85 -8/89

Bannock Regional Medical Center, Pocatello, Idaho

Staff Nurse, Post-Surgery

Staff Nurse, Charge Nurse: Labor, Delivery and Recovery

Charge Nurse: Obstetrics and Gynecology

Staff nurse, post-surgery. Provided direct patient care to post-surgical patients and provided health care and post-surgical education to patients and their families.

Staff nurse in labor, delivery, and recovery. Provided direct patient care to uncomplicated and high-risk OB patients, post-partum patients, and newborns. Educated new moms and their families about post-partum care, new baby care, feeding (breast feeding and bottle feeding), etc.

Charge nurse: Obstetrics and Gynecology, night shift, for 30-bed OB-GYN floor. In addition to all staff nurse responsibilities, I supervised other RNs, LPNs, and scrub nurses. Assisted in orienting new staff members. Updated and revised labor and delivery policies and procedures.

Clinician, Clinical Nursing Research Assistant

12/83-6/85

Tallahassee Memorial Regional Medical Center, Tallahassee, FL

Assisted in patient care in obstetrics unit. Conducted original research in obstetrics regarding various prenatal and labor preparedness courses and their effectiveness in providing knowledge about, and assistance during, labor and delivery.

Clinician, Clinical Nursing Assistant

8/82-6/83

Corvallis Manor Nursing Center, Corvallis, Oregon

Assisted in providing direct patient care to residents in nursing care facility.

Graduate Teaching and Research Assistant

9/80 -8/82

Oregon State University, Corvallis, Oregon

Taught laboratory sessions associated with general botany course.

Science Teacher

9/79 - 6/80

J.M. Tate High School, Gonzales, Florida

Taught high school biology and earth science for grades nine and ten.

Teaching and Research Assistant

9/77 - 8/79

University of West Florida, Pensacola, Florida

Taught Environmental Biology course, including preparing lab activities, supervising students, organizing field trips for collection, developing and grading exams, and final evaluation of students in the course. Undergraduate research experience in the effect of environmental factors on the growth and development of gametophytes of various species of ferns in Southwestern Florida.

**TEACHING EXPERINECES (University of Northern Iowa – primary instructor) and
LAB COORDINATING EXPERIENCES (University of Northern Iowa)**

Anatomy and Physiology I and II Lectures

1993-present

Two-semester sequence. Each semester course offers two lecture sections – one designed specifically to meet the educational needs of biology majors, athletic training, and exercise science majors, though students in other majors often enroll. The other section is specifically designed to meet the needs of pre-allied health care majors (pre-nursing, pre-radiography, pre-ultrasonography, etc.). Both courses cover anatomy and physiology in depth; however, the pre-allied health sections place additional emphasis on application of content to clinical situations.

Anatomy and Physiology I Lab 1991-present
Lab focuses primarily on anatomy and includes extensive use of SynDavers (synthetic cadavers). Pre-allied health sections place greater emphasis on clinical application of lab content.

Anatomy and Physiology II lab 1992-present
Lab focuses primarily on physiology activities. Pre-allied health sections place greater emphasis on clinical application of content than do biology majors lab sections.

Anatomy and Physiology I Laboratory Coordinator 1992-present
Design, plan, coordinate, and prep all lab sections of Anatomy and Physiology I Laboratory every semester (usually 3-10 lab sections, depending on semester). Set up and take down weekly labs, provide weekly written instructions and information to all instructors and graduate teaching assistants. Conduct weekly lab prep meetings as needed. Coordinate review sessions for lab exams and set up laboratory practical exams for all sections. Supervise all instructors and undergraduate teaching assistants, assist in problem solving when issues arise with students, and ensure the lab is kept clean and prepped for each lab section. Ensure all materials needed to conduct laboratory activities are ordered and available for labs.

Anatomy and Physiology II Laboratory Coordinator 1992-present
Design, plan, coordinate, and prep all lab sections of Anatomy and Physiology II Laboratory every semester (usually 2-9 lab sections, depending on semester). Activities similar to those described for Anatomy and Physiology I labs.

Life: Continuity and Change Laboratory Coordinator 1997-present
Design, plan, coordinate, and prep all sections of Life: Continuity and Change Lab every semester (usually 9-13 lab sections, depending on semester). Activities similar to Anatomy and Physiology I Laboratory coordinator. However, graduate teaching assistants teach many lab sections, requiring more in-depth and detailed weekly prep meetings, additional supervision of teaching, and greater assistance with resolving student issues/problems. Write exams for all sections. Provide written evaluations of graduate teaching assistants each semester.

Life: Continuity and Change Lecture 1997-2008
Lecture course emphasizes cells, genetics and inheritance, and DNA.

Life: Continuity and Change Laboratory 1996-2008
Lab instructor for Life: Continuity and Change lab, which emphasizes DNA, genetics, inheritance, cells, and human disease transmission.

Life: The Natural World Lecture 1994-2008
Lecture course emphasizing the environment and interactions between organisms and their environment. (Former class name “Energy and Life”)

Independent Study – Undergraduate Teaching Assistance in A&P Labs 2001-present
Supervise anatomy and physiology undergraduate lab teaching assistants, who assist in lab, answer questions, assist with identification of anatomical materials, dissections, and various laboratory exercises. Provide weekly written instructions and information to all teaching assistants. Students assist in both Anatomy and Physiology 1 and Anatomy and Physiology 2 labs.

Anatomy and Physiology	1991-1992
One-semester Anatomy and Physiology course specifically designed for pre-nursing (LPN) students. (Not part of a two-semester course.) Included both lecture and lab. Provided an introduction to/ overview of all areas of anatomy and physiology. (This course is no longer offered at this institution.)	

HONORS AND AWARDS

Second Year Student Advocate. Named by a student as the person at UNI who has been most supportive of their success at UNI.	Spring 2023
“Apple Polisher” Award. Certificate of Appreciation in recognition of student support and education, awarded by UNI Student Alumni Ambassadors	1995, 1996, 2012, 2014, 2022
Honorary Sideline Coach	2014-2019
Nominated by student athletes in numerous sports including basketball, volleyball, swimming and diving, soccer, and women’s softball.	
UNI Connection Survey, recognized by students as “Transfer Friendly”	2018-2019
UNI Connection Survey, recognized by students as “First Year Friendly”	2018-2019
Recognition by Mapworks as “Individual” on Campus who has Been Most Helpful in Student Success at UNI	2017
Recipient, Dean’s Award for Teaching Excellence in Departmental Programs	2014
Recipient, Tri Beta Excellence in Teaching Award	2001, 2007, 2013
College of Natural Science Recipient, 2008 EXCEL Award. Given in recognition of outstanding dedication to teaching and learning.	2008
Nominee, Tri Beta Award for Excellence in Teaching	2005, 2006
Recipient, Dean’s Award for Excellence in Teaching General Education	2000
Recognized by Alpha Phi Sorority as an “Outstanding Teacher”	2001
Nominated participant in UNI Department of Residence “Faculty Friends” Program	2001
UNI All Greek Faculty Nominee for “Favorite Faculty Member”	2000, 2002
Nominated, “Who’s Who among American Teachers”	2000
Recognized by UNI graduating seniors as “a UNI faculty member who has had a positive influence on student life and education at UNI”	1995, 1996, 1997, 1998, 1999, 2000
Recognized by the Women of Gamma Phi Beta as an “Outstanding Teacher” -	1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2012
Sigma Theta Tau Research Award	1985
Sigma Theta Tau, Beta Pi Chapter, Award of Distinction, Outstanding Nursing Senior	1985
Sigma Theta Tau National Honor Society of Nursing,	1984-present
Phi Kappa Phi National Honor Society	1979-present
Phi Theta Kappa National Honor Society	1976-present

GRADUATE COMMITTEE PARTICIPATION

“Scientific and Social Aspects of Autism”	2008-2009
University of Northern Iowa, Biology Department Kassandra Einfeldt, graduate student	

UNDERGRADUATE RESEARCH PAPER SUPERVISION

“Cerebral Palsy: Physical Therapy and Medical Treatment Issues” 2003-2004
University of Northern Iowa, Biology Department
Presidential Scholar - student Jill Pedretti, Presidential Scholars Research Paper

HONORS THESES SUPERVISED

“The Impact of Exercise on Mental Health: The Use of Exercise as Prevention and Treatment for Mental Health Disorders” Spring 2023
Honors Student: Abby Stivers, Honors Thesis in Anatomy and Physiology

“How exercise affects the musculoskeletal system in the biological sexes” Spring 2022
Honors Student: Lauren Connolly, Honors Thesis in Anatomy and Physiology II

“Special Topics in Anatomy and Physiology and their Application and Importance in the Physical Therapy Profession” Fall 2019
Honors Student: Collin Besch, Honors Thesis in Anatomy and Physiology I

HONORS PROJECTS AND HONORS PAPERS SUPERVISION (UNI)

“The cause, diagnosis, effects, and treatments performed for Cleft lip and Cleft Palate” Spring 2023
Honors Student: Maddy Waters, Honors Project in Anatomy and Physiology II

“Postural Orthostatic Tachycardia Syndrome (POTS) – Variations of POTS, Causes, Symptoms and Treatments” Spring 2023
Honors Student: Stella Narkiewicz, Honors Project in Anatomy and Physiology II

“Cancer – Effect on Body, treatments, and mental health effects of cancer.” Spring 2023
Honors Student: Molly Dunne, Honors Project in Anatomy and Physiology II

“Opioids, effect on the body, metabolism, biochemical reactions, and addiction” Spring 2023
Honors Student: Emma Pelligrino, Honors Project in Anatomy and Physiology II

“Amputation – physical and mental effects of amputation” Fall 2022
Honors Student: Amber Finke, Honors Project in Anatomy and Physiology II

“Alzheimer’s Disease – What it is, what causes it and how to care for individuals with Alzheimer’s Disease” Spring 2022
Honors Student: Jacey Meier, Honors Project in Anatomy and Physiology II

“Special Topics in Anatomy and Physiology and their Application to the Physician Assistant Profession” Spring 2022
Honors Student: Payton Hall, Honors Project in Anatomy and Physiology II

“Effects of ADHD on the human body” Spring 2021
Honors Student: Lauren Connolly, Honors Project in Anatomy and Physiology II

- "Asthma and how it relates to the respiratory and circulatory systems, including causes, symptoms, and current treatments"** Spring 2021
Honors Student: Joseph Correa, Honors Project in Anatomy and Physiology II
- "Breakthrough of Immunizations"** Spring 2020
Honors Student: Luke Butikofer, Honors Project in Anatomy and Physiology II
- "An In-Depth Study of Pathologies in a Variety of Human Organ Systems"** Spring 2020
Honors Student: Emily Cornelius, Honors Project in Anatomy and Physiology II
- "An In-Depth Study of Several Pediatric Pathologies"** Spring 2020
Honors Student: Olivia Crouse, Honors Project in Anatomy and Physiology II
- "The Correlation between Oral Health and Human Physiological Conditions"** Spring 2020
Honors Student: Isabel Wolf, Honors Project in Anatomy and Physiology II
- "Application of Anatomy and Physiology Pathophysiology to the Dental Profession"** Spring 2019
Honors Student: Ashlee Osier, Honors Project in Anatomy and Physiology II
- "Application of Anatomy and Physiology Content to Occupational Therapy and Geriatrics"** Spring 2018
Honors Student: Abby Manderfield, Honors Project in Anatomy and Physiology II
- "Special Topics in Anatomy and Physiology Relative to Geriatric Health Care"** Spring 2017
Honors Student: Meghan Hirsch, Honors Project in Anatomy and Physiology II
- "Special Topics in Anatomy and Physiology"** Fall 2015
Honors Student: Sarah Freeland, Honors Project in Anatomy and Physiology II
- "An In-Depth Study of Disorders in Various Human Body Systems"** Spring 2014
Honors Student: Natalie Martin, Honors Project in Anatomy and Physiology II
- "Detailed Study of Specific Disorders in Human Body Systems"** Fall 2013-Spring 2014
Honors Student: Pat Chizek, Honors Project in Anatomy and Physiology I and II
- "Pathology and Human Disease"** Spring 2013
Honors Student: Chelsea Meier, Honors Project in Anatomy and Physiology II
- "Diseases and Medicine in the Developing World"** Fall 2011
Honors Student: Taylor Hircock, Honors Project in Anatomy and Physiology II
- "Pulmonary and Hematologic Disorders – Causes, Symptoms and Treatments"** Fall 2010
Honors Student: Erica Scullin, Honors Project in Anatomy and Physiology II

TEACHING AND PROFESSIONAL DEVELOPMENT WORKSHOPS AND SEMINARS

- Creative Digital Tools to Teach Anatomy and Physiology** Spring 2023
This showcased creative ways you can utilize various digital tools such as 3D interactive models to help students effectively learn and engage in the A&P laboratory.

Visible Body- Courseware Basics

Spring 2023

Information on how to quickly integrate Visible Body Courses into existing or newly created and Physiology classes.

The Why? Series

Spring 2023

The Why? Series takes a relevancy-first approach and enforces content using engaging digital resources.

Visible Body 3D Anatomy – (Visible Body, 2023)

Spring 2023

Integrating 3D Anatomy with Visible Body into Classroom and Laboratory Settings

Diversity, Equity, and Inclusion in the A&P course.

March 2022

Ideas to incorporate DEI in your own course, including adaptive and accessible technology. Included some innovative ideas of understanding the needs of students who are less prepared for higher education.

Teaching Heart Rate in Virtual 3D.

October 2021

An interesting Visible Body computer program to teach students resting heart rate, changes in heart rate with exercise, maximum heart rate. Primarily a sales pitch to purchase the Visible Body Computer Program.

Are Your A&P Students Disengaged? Discover a Cure!

September 2021

A discussion of strategies to engage A&P students online and in the classroom, improve comprehension, and promote Anatomy & Physiology as an exciting, relevant field of study.

Innovative Teaching Now and In the Future.

June 2021

Included a review of recent research in teaching Anatomy and Physiology. Topics included: innovation in anatomy education and the impact of COVID-19 on teaching practice, including online and hybrid learning, as well as newly emerging pedagogical trends on the horizon.

Dimensions of Diversity - Practical Applications for Improving Equity in Higher Education.

April 2021

Included information on the practical application of equity, diversity, and inclusion in higher education.

Teaching Anatomy and Physiology, How to Future-Proof your Course

January, 2021

Included ideas on how to keep your course current with the use of online technology.

Rethinking the Classroom: Developing Positive Learning Cultures.

November, 2021

Included ideas on how to develop a positive climate for learning, including positive feedback, small group work, etc.

Build a Heart with your Students: No Lab Required

November, 2021

How to have students build a heart when no lab is available – using materials such as clay, colored pencils, etc.

Keep Active Learning Going During Remote Instruction

October 2021

Methods to keep students engaged and interested when transitioning to online education.

Engage your students in Anatomy and Physiology: Immerse Your Students in a Realistic Visual Paradise October 2021

Using available online technology and programs (such as Visible Body Computer Program) to assist students in understanding the human body using 3D technology.

Engaging Learners through Zoom October 2021

Ways to keep students interested and engaged with live online zoom lectures.

Managing Zoom Fatigue: Help Your Students Succeed in the Virtual Classroom Nov 2021

Ways to keep students interested and engaged, ways to improve success when using online live zoom lectures and online labs.

How to enliven your online biology teaching October 2021

Included ways to keep students interested and engaged when using online lectures and labs.

Connect Master: Why Biology? June 2020

Included understanding of the online Connect Anatomy and Physiology program offered by McGraw Hill Publishers.

Proctorio Integration May 2020

How to integrate the online proctoring program, Proctorio, offered by McGraw Hill Publishing company to decrease academic dishonesty during testing and quizzing.

Providing Structure in Online A&P Labs So Your Students Can Function April 2020

Included ways to offer online labs in a way that students can smoothly and easily complete the labs so that they receive a meaningful educational experience.

Strategies for giving online exams Spring 2020

Discussed ways to give online exams in a way that is engaging and allows appropriate assessment of student performance.

Bb04a: Testing 1, 2, 3: Developing, Deploying and Editing an Online Test in Bb Learn

Spring 2020

Discussed ways to develop, edit and deploy online exams, including ways to minimize academic dishonesty.

Zoom: Cloud Video Conferencing for Meetings and Course Collaboration Spring 2020

Demonstrated the use of Zoom Video Conferencing for communicating in a virtual, face to face, synchronous way. Included recording of zoom meetings to allow for asynchronous viewing of meeting.

Panopto: Advanced Features Spring 2020

Included features such as editing Panopto videos and creating Panopto quizzes in videos.

Incorporating Anatomy & Physiology Virtual Labs into your Online Class Spring 2020

Discussed the use of virtual labs available in publisher's website, how to assign and deploy virtual labs.

- Engage Your A&P Students with Digital Online Resources** Spring 2020
Discussed ways to make online learning more engaging for students; to increase student involvement and understanding of content.
- A&P Digital Resources for Successful Remote Learning** Spring 2020
Discussed ways to make utilize a variety of online resources for making online successful and engaging.
- Moving your Class Online/ Moving your Exams Online** Spring 2020
Discussed ways to make utilize a variety of publisher's online resources for creating exams and assignments to online platform.
- Bb02: Assessing Your Students Using Bb Learn's Assignment Tool** Spring 2020
Demonstrated use of Blackboard to create online assignments.
- Using APR/Connect McGraw Hill** Spring 2020
Demonstrated use of the McGraw Hill online textbook, assignments, and virtual labs, and how to allow students to access the site.
- Remote Options to Assess Student Learning** Spring 2020
Demonstrated use of the McGraw Hill website to develop assignments and virtual labs and how to assess student performance in those assignments and labs.
- Getting to Know Labster** Spring 2020
Demonstrated use of the Labster virtual labs – including contents of labs and assessment of student performance when using Labster labs in both Anatomy and Physiology and non-majors science classes.
- Providing Structure in Online A&P Labs So Your Students Can Function** Spring 2020
Demonstrated the use and development of online labs for Anatomy and Physiology courses.
- McGraw Hill Connect + Proctorio Integration** Spring 2020
Demonstrated and discussed the use of an online exam proctoring program which will be available in Fall 2020.
- Helping the Underprepared Student** Fall 2019
Discussed strategies and techniques using digital learning opportunities to assist underprepared students in achieving success in Anatomy and Physiology. Topics included preparation for class; development of critical thinking skills; lab preparation, review, and success; application of content to clinical situations; and exam preparation and success.
- Fast Track your Class Prep** Summer 2019
Discussed ways to utilize online resources to improve class preparation, including assignments, exams, and online virtual labs.
- Developing Critical Thinkers in the Classroom** Spring 2019
Provided strategies to assist students in application of content; to encourage participation in active and engaged learning; and to assist students in developing critical thinking skills in and out of the classroom.

Using Digital Learning to Flip a Biology Course and Create a Student-Centered Environment

Spring 2019

Provided an introduction on how to change from a traditional lecture course (in Anatomy and Physiology) to a “flipped” classroom, where students learn much of the content outside of class and spend class time applying and reviewing content. This technique encourages active and engaged learning as well as the achievement of higher-level learning objectives.

Transforming the Large Lecture Classroom with Technology

Spring 2019

Basic introduction on flipping a large lecture class into a more integrated and active learning environment, including extensive use of available technology and on-line learning aids.

Developing Critical Thinkers in your Students

Fall 2018

Provided strategies in application of content; to encourage student participation in active learning; and to assist students in developing critical thinking skills.

Faculty Search Committee Training Session

Fall 2018

Provided basic information on how to effectively serve on a search committee and how to avoid bias, both conscious and unconscious.

Integration of Active Learning into Your Classroom

Spring 2018

Introduction on various methods to integrate more active learning in large classrooms.

Clery Act Training for Club Advisers

2017, 2018

Mandatory training for all advisers of student clubs and organizations, focusing on the mandatory reporting role of faculty members involved in student organizations.

Preventing Sexual Misconduct Workshop

Fall 2015

Provided basic information of various aspects of sexual harassment.

Using Panopto in the Classroom.

Spring 2012

Basic introduction into using Panopto videos in classroom and how to integrate videos into e-learning.

Blackboard 9 Essential Training for Instructors Workshop

Summer 2011

Introduction into the use of e-learning (Blackboard) in classes for recording grades, quizzing, providing basic and advanced information to students, and using discussion boards.

PUBLICATIONS

McDade, Evans, McDelan, Lizz. (2022). *Life: Continuity and Change Lab Manual*, (6th ed.). Dubuque, IA: Campus Publishing.

McDade, Evans, McDelan, Lizz. (2022). *Anatomy and Physiology II Lab* (8th ed.). Dubuque, IA: Campus Publishing.

- McDade**, Evans, McDelan, Lizz. (2022). *Anatomy and Physiology II Lab* (8th ed., edited). Dubuque, IA: Campus Publishing.
- McDade**, Evans, McDelan, Lizz. (2021). *Anatomy and Physiology I Lab Manual with SynDaver Anatomy*. (4th ed., edited). Dubuque, IA: Campus Publishing.
- McDade**, Evans, McDelan, Lizz. (2021). *Life: Continuity and Change Lab Manual*, (5th ed.). Dubuque, IA: Campus Publishing.
- McDade**, Evans, McDelan, Lizz. (2021). *Anatomy and Physiology II Lab* (7th ed.). Dubuque, IA: Campus Publishing.
- McDade**, Evans, McDelan, Lizz. (2020). *Anatomy and Physiology I Lab Manual with SynDaver Anatomy*. (4th ed.). Dubuque, IA: Campus Publishing.
- Hardy, McDelan, Hardy, **McDade**. (2109). *Life: Continuity and Change lab manual*. (4th ed. edited). Dubuque, IA: Campus Publishing.
- McDelan, Hardy, **McDade**, Hardy. (2019). *Human Anatomy and Physiology II Lab Manual*. (6th ed. edited). Dubuque, IA: Campus Publishing.
- McDelan, Hardy, **McDade**, Hardy. (2018). *Human Anatomy and Physiology I Lab Manual with SynDaver Anatomy*. (3rd ed.). Dubuque, IA: Campus Publishing.
- McDelan, Hardy, **McDade**, Hardy. (2017). *Human Anatomy and Physiology I Lab Manual with SynDaver Anatomy*. (2nd ed.). Dubuque, IA: Campus Publishing.
- McDelan, Hardy, **McDade**, Hardy. (2017). *Human Anatomy and Physiology II Lab Manual*. (6th ed.). Campus Publishing, Dubuque, Iowa.
- Hardy, McDelan, Hardy, **McDade**. (2017). *Life: Continuity and Change lab manual*. (4th ed.). Dubuque, IA: Campus Publishing.
- McDade**, et. al. (2016). *Human Anatomy and Physiology I Lab Manual with SynDaver Anatomy*. Dubuque, IA: Campus Publishing.
- McDelan, Hardy, **McDade**, Hardy. (2016). *Human Anatomy and Physiology I Lab Manual*. (4th ed.). Dubuque, IA: Campus Publishing.
- McDelan, Hardy, **McDade**, Hardy. (2016). *Human Anatomy and Physiology II Lab Manual*. (5th ed.). Dubuque, IA: Campus Publishing.
- McDade**, et. al. (2016). *Anatomy and Physiology I Lab Manual with SynDaver Anatomy*. Dubuque, IA: Campus Publishing.
- McDade**, Hardy, McDelan, Hardy. (2016). *Anatomy and Physiology I lab Manual*. Dubuque, IA: Campus Publishing.
- Hardy, McDelan, Hardy, **McDade**. (2105). *Anatomy and Physiology 2 Lab Manual*. Dubuque, IA: Campus Publishing.
- Hardy, McDelan, Hardy, **McDade**. (2015). *Life: Continuity and Change lab manual*. (3rd. ed.). Dubuque, IA: Campus Publishing.

McDade, M. (2007). *Life: Continuity and Change Lab*. (6th ed.). Eden Prairie, MN: Thomson Publishing.

McDade, M. (2006). *Life: Continuity and Change Lab*. (5th ed. revised). Eden Prairie, MN: Outernet Publishing.

McDade, M.H. (2005). *Life: Continuity and Change Lab*. (5th ed.). Eden Prairie, MN: Outernet Publishing.

McDade, M. (2002). *Life: Continuity and Change Lab*. (4th ed.). Eden Prairie, MN: Outernet Publishing.

McDade, M. (2001) *Life: Continuity and Change Lab*. (3rd ed.). St. Paul, MN: EMC Paradigm Publishers.

McDade, M. (2000) *Life: Continuity and Change Lab*. (2nd ed.). St. Paul, MN: EMC Paradigm Publishers.

McDade, M. (1999). *Life: Continuity and Change Lab*. St. Paul, MN: EMC Paradigm Publishers.

McDade, M.H., et. al. (1990). Source distance for coarse woody debris entering small streams in western Oregon and Washington. *Canadian Journal of Forest Research*, 20(3), 326-330.

GRANTS

Roy J. Carver Charitable Foundation 2019
University of Northern Iowa, Biology Department

Storage and Upgrade of Synthetic Cadavers Intended for the Human Anatomy and Physiology I Laboratory (\$40,000)

Prepared by: Nathan Bird, Sheree Harper, Jill Maroo, **Mary McDade**, and Theresa Spradling. Grant provided for the purchase of new mechanical lift storage tanks for SynDavers and for upgrading to the newest iteration of specific SynDaver organs.

Roy J. Carver Charitable Foundation 2016
University of Northern Iowa, Biology Department

Modernization of Liberal Arts Core, Category 4. Natural Sciences and Technology, Teaching Laboratories. (\$393,924).

Prepared by: Alison Beharka, Kim Cline-Brown, Alan Czarnetzki, Lawrence Escalada, Kyle Gray, Jim Jurgenson, Jill Maroo, **Mary McDade**, Siobahn Morgan, John Ophus, David Saunders, Aaron Spurr, Paul Shand, Laura Strauss, Takeshi Yasuda.

Grant received to update Liberal Arts Core science teaching laboratory equipment, including microscopes and DNA fingerprinting equipment.

Roy J. Carver Charitable Foundation 2015
University of Northern Iowa, Biology Department

Update of Human Physiology Software and Equipment in the Human Anatomy and Physiology II Laboratory (\$69,614.99)

Prepared by: **Mary McDade**, David Saunders, Carl Thurman, and Darrell Wiens

Roy J. Carver Charitable Foundation
University of Northern Iowa. Biology Department

2014

Inclusion of Synthetic Cadavers into the Human Anatomy and Physiology I Laboratory (\$150,000). Prepared by: Nathan Bird, **Mary McDade**, John Ophus, David Saunders, and Darrell Wiens.
Grant provided funds for the purchase of four SynDavers (synthetic cadavers) for the anatomy and physiology teaching lab. UNI was the first university in the state to have SynDavers and are currently using the second generation SynDavers in the Anatomy and Physiology labs.

Roy J. Carver Charitable Foundation
University of Northern Iowa. Biology Department

2012

Modernization of Teaching Laboratories for Students Pursuing Health Professions (\$218,233)
Prepared by: Maureen Clayton, Kavita Dhanwada, James Jurgenson, David McClenahan, **Mary McDade**, John Ophus, David Saunders, Carl Thurman, Michael Walter, and Darrell Wiens. This grant was awarded to allow for upgrading of teaching laboratory equipment in those labs that specifically serve students pursuing professions in the health care fields. In Anatomy and Physiology labs, this allowed for the purchase of new skeletal materials, and new human muscle/organ/vessel/nerve models.

College of Natural Sciences,
University of Northern Iowa, Cedar Falls, Iowa.

2006

Computer minigrant - "Curriculum Materials for Computer-Assisted Physiology Labs" (\$600) Prepared by: **Mary McDade**. This grant provided funding for the development of instructional materials for use with the newly acquired computer assisted physiology lab equipment.

SERVICE

Service to the Biology Department

Pre-physical therapy club faculty adviser 2009 - present
Attend pre-physical therapy club meetings, meet with pre-physical therapy students individually when needed to answer questions or advise about physical therapy programs, admissions, etc. Meet and greet visiting physical therapists, admissions officers, and other physical therapy school representatives.

A&P curriculum meeting March, 2023
Meeting to discuss changes in the Anatomy and Physiology I and II curriculum to meet the needs of the biology department and the developing Bachelor of Science in Nursing program.

SynDaver Visit – Northeast Iowa Community College (NICC) March 2023
Students from NICC visited the Anatomy and Physiology lab, where they explored the human muscle model, intact and disarticulated skeletons, and the SynDavers' muscles, organs, vessels, and nerves. Visited with students and instructors.

- SynDaver Visit and Photoshoot with University Relations** September, 2022
Recruited students to participate in, and personally participated in, a photoshoot with University Relations.
- SynDaver visit – Dr. Hager** September, 2022
Hosted Mr. Hager when he visited the SynDaver lab. Arranged for Mr. Hager to speak to current students. Provided a tour of the lab and introduced him to the newest iteration of the SynDavers.
- SynDaver Visit and Photoshoot with University Relations** January, 2023
Recruited students to participate in, and personally participated in, a photoshoot with University Relations.
- SynDaver Visit – Dr. Pease** January, 2023
Hosted associate provost, Dr. Pease during his visit to the SynDaver lab. Provided a tour of the lab and introduced him to the newest iteration of the SynDavers. January 19, 2023.
- SynDaver Media Visit - Photoshoot and Interview, Waterloo Courier** February, 2023
Recruited students to participate in, and personally participated in, a photoshoot and an interview with the Waterloo Courier.
- UNI Plus Faculty Leader** 2019-present
UNI Plus is an outside of class program designed to assist students in developing study skills and understanding lecture content. As faculty leader, I met weekly with the UNI Plus student leader to share session plans, to provide feedback on difficult content topics, to provide additional resources as needed, to improve UNI plus student leader's understanding of course content
- Biomedical curriculum committee** 2019-2020
Committee to evaluate and revise curriculum designed specifically for students planning to enter professional health care graduate programs following graduation from the university.
- Northeast Iowa Community College visit** 2017-2019
Students from NICC visited the Anatomy and Physiology lab, where they explored the human muscle model, intact and disarticulated skeletons, and the SynDavers' muscles, organs, vessels, and nerves. Prepared lab, visited with students and instructors, accompanied and chaperoned students to lunch at the student dining center.
- Cedar Falls High School CAPS Med Program – Visit to Anatomy lab** 2018-2019
Hosted high school seniors and their instructor from Cedar Falls High School on a requested visit to the Anatomy and Physiology lab. Students explored the human muscle model, intact and disarticulated skeletons, and the SynDavers' muscles, organs, vessels, and nerves. Discussed a variety of UNI programs with students and the advantages of attending UNI as an institution of higher learning.
- Service Evaluation Standards and Policies Committee** 2018-2109
Assisted in the development of departmental standards and criteria for annual review and promotion with respect to faculty members' contributions to department, college, university, and community service. Met with committee members to develop rubric including criteria used to evaluate service performed by a faculty member (meets

expectations, exceeds expectation, or needs improvement). The rubric provides specific criteria and standards that can be used in annual review as well as tenure and promotion decisions for adjunct faculty, instructors, tenure track faculty, associate professors, and full professors. The rubric, with minor changes, was adopted as part of biology department policies and procedures for annual evaluation and promotion.

New Hampton High School Visit to Anatomy lab 2019

Hosted high school students interested in health careers on a requested visit to the Anatomy and Physiology lab. Students explored the human muscle model, intact and disarticulated skeletons, and the SynDavers' muscles, organs, vessels, and nerves. Discussed a variety of UNI programs with students.

Tours of Anatomy Lab to Prospective Students and Parents 2014-present

Provide frequent (unscheduled) tours of the Anatomy lab, including SynDavers, to visiting prospective students and their parents; talk with students and parents about the advantages of UNI as an institution of higher learning, answer questions, etc.

Search Committee, Biology Instructor Position 2018

Reviewed applicants for advertised position and evaluated applicant qualifications for the position, met with committee members to discuss each applicant's qualifications for the position, and participating in decision making regarding applicants to interview and to hire.

FIRST Robotics Competition (FRC) Iowa Regional participants visit 2017

Students attending the *FIRST* Robotics Competition (FRC) were scheduled to visit the Anatomy and Physiology lab. Developed a description of the "SynDaver Experience," and prepared the lab for student and chaperone visits.

"Clinical Applications for Local Anesthesiology and Anatomy"
Dr. Dave Swanson, visiting anesthesiologist 2016

Assisted Dr. Swanson (visiting anesthesiologist) in his demonstration on the use of ultrasound and the need for anatomical knowledge in the use of local anesthesia. SynDavers and ultrasound were utilized in the demonstration.

Tours of Anatomy Lab/Meeting with UNI Alumni and Potential Donors to UNI 2016-present

Provided tours of the Anatomy lab, including SynDavers, to visiting UNI biology alumnae and prospective UNI donors. Discussed biology program, advantages of SynDavers vs. cat dissection in anatomy labs, current professional activities and projects of visiting individuals, advantages of educational preparation at UNI.

Central High School Students and Faculty visit to UNI Anatomy Lab 2016

Hosted high school seniors, juniors, and their Anatomy and Physiology teacher from Central High School in Elkader on a visit to the Anatomy and Physiology lab, where they explored the human muscle model, intact and disarticulated skeletons, and the SynDavers' muscles, organs, vessels, and nerves. At the conclusion of the visit, one student remarked that she would "now definitely be attending UNI next year."

Interviews and Tours of Anatomy Lab (SynDavers) with various news media 2014

Provided tours of anatomy lab, with new synthetic cadavers (SynDavers), and interviewed with various news media, including newspapers (Waterloo-Cedar Falls Courier, Northern Iowan), radio (Iowa Public Radio), and television to increase public

awareness of our new technology (SynDavers). Arranged for current biology students to be available for interviewing and photographing.

Invited Speaker, Biology Freshman Class 2012

Talked with students about Anatomy and Physiology courses for both biology majors and pre-allied health students, as well as opportunities for students as undergraduate teaching assistants in Anatomy and Physiology labs.

Beckman Middle School Visit to UNI 2006

Set up demonstrations in human physiology, including muscle contraction, electrocardiograms, reflex responses, in which visiting middle school students and their teachers could participate. Set up various anatomical materials, allowing students and teachers to manipulate and explore skeletons, human torso models, sheep brains, heart models, etc. Demonstrated various activities in human physiology, visited with teachers and students, and answered questions about the Biology program at UNI.

Invited Speaker 1999
Science Education Update

“DNA Fingerprinting: What you Might Want to Know, but Never had the Chance to ask.” Presentation to Iowa science educators (high school and community college educators) on methods of teaching biotechnology in the classroom, including: getting students interested and keeping them interested, the Human Genome Project, Genetic Engineering, Genetic Screening, Gene Therapy, Cloning, Stem Cell Research, Polymerase Chain Reaction, DNA fingerprinting, Bioethics involved in various aspects of biotechnology, and how and why to encourage students to continue learning about biotechnology.

Service to the College and University

Faculty Search Committee, Department of Nursing Spring 2023

Served on a 3-faculty member search committee for the newest faculty member for the Department of Nursing.

SynDaver/Anatomy Lab Visit and Consulting with Dr. Nancy Kertz, Chief Academic Nursing Administrator January 2023

Met with Dr. Nancy Kertz, Dr. Nathan Bird, and Dr. Theresa Spradling to discuss the new Bachelor of Science in Nursing program and how our anatomy and physiology program can meet the upcoming needs of the nursing program. Provided a tour of the Anatomy lab, including SynDavers. Conversation included discussion about laboratory manuals and laboratory activities related to the nursing program.

Alumni Association Tuesday Talk June, 2020

Recorded a Tuesday Talk video for the Alumni Association. The video showcased our SynDavers and explained how we obtained them and how they were used in the lab to enhance student learning.

Health Sciences Curriculum Committee (member) 2014-present

Review and approve curriculum for students pursuing interdisciplinary degrees in health sciences.

- Supplemental Instruction Faculty Leader** 2012-2019
Supplemental Instruction (SI) is an outside of class program designed to assist students in developing study skills and understanding lecture content. As faculty leader, I met weekly with the SI student leader to share SI session plans, to provide feedback on difficult content topics, to provide additional resources as needed, to improve SI student leader's understanding of course content.
- Panther Open House** (numerous dates) Spring and Fall 2019
Hosted high school juniors and seniors and their parents in the Anatomy and Physiology lab. Students and parents explored the human muscle model, intact and disarticulated skeletons, and the SynDavers' muscles, organs, vessels, and nerves. Discussed a variety of UNI programs with students. Prepped lab for their arrival and arranged for current biology students to be available to address student and parent questions, concerns, and advantages of attending UNI as an institution of higher learning.
- UNI Up Close Days** 2008-present
Contributed materials and assisted in the set up of demonstrations for visiting students and parents. 2019 - Assisted in the planning and development of new forensic based activity for student recruitment on Up Close Day.
- Cultural and Intensive Language Program visit to Anatomy** 2019
Hosted student from the Yamanashi English Language Immersion and Professional Development Immersion program from Japan, currently studying in the CIEP at UNI. Visit to class was designed to provide enrichment and professional development experiences to visiting students interested in health care professions.
- UNI STEM Day** 2013, 2014
Assisted in the creation and development of a new "forensic analysis" activity for students attending UNI STEM day. This incorporated information and activities from many different areas in biology, including forensic analysis of skeletal remains, botany, DNA fingerprinting, blood typing, and microscopic analysis of materials. Assisted visiting students in engaging in and completing the activity.
- Korean exchange students visit to UNI Anatomy Lab** 2016
Hosted Korean exchange students, their community internship coordinator, and their campus internship coordinator (from Health Promotions) on a visit to the Anatomy and Physiology lab. Students and internship coordinators studied the SynDaver muscle, organs, vessels, and nerves, as well as the human muscle models and various bones in the articulated skeleton.
- University of Myanmar Delegation of Teachers – visit to Anatomy class** 2014
Hosted a visiting teacher delegation from the University of Myanmar. Teachers attended lecture class. Discussed, at length, teaching of science (especially anatomy) in the college classroom. Provided a tour of labs and building facilities with delegation.
- Spotlight on Technology Day** 2012, 2013
Arranged for set up and various demonstrations in human physiology, including muscle contraction, blood pressure, ultrasound pulse, in which visiting elementary, middle, and high school students and their teachers could participate. Assisted with set up of various anatomical materials, allowing students and teachers to manipulate and explore skeletal

materials, ear models, eye models, skin and burn models, heart models, etc. Arranged students and additional professor to demonstrate and supervise various activities in human physiology, visit with teachers and students, and answer questions about the Biology program at UNI.

College of Humanities, Arts and Sciences Preview Day 2011

Set up demonstrations in human physiology, met with students and parents for demonstrations (in which visiting parents and students could participate), visited with parents and students and answered questions about the Biology program at UNI.

UNI Family Weekend 2009, 2010, 2011

Contributed materials and assisted in set up of demonstrations for visiting students and their parents during UNI Family Weekend.

College of Natural Science Preview Day 2005, 2006 2007, 2008

Set up demonstrations in human physiology, met with students and parents for demonstrations (in which visiting parents and students could participate,) visited with parents and students and answered questions about the Biology program at UNI.

Biological Sciences/Biotechnology Articulation Conference February, 2008

Conference participant regarding updating articulation agreements between community colleges and University. Represented Biology department interests in the field of A&P.

Invited instructor 2005

Department of Special Education, University of Northern Iowa

220:259 Anatomy of the Eye and Educational Implications of Low Vision

Half day, in-depth presentation on anatomy and physiology of the eye, including many common eye diseases that affect the population. Included lecture, as well as hands-on activities involving manipulation of eye models, dissection of cow eyeballs, etc.

Annual Science, Mathematics, and Technology Symposium 1997 – 2004

Set up demonstrations in human physiology, met with students and parents for demonstrations (in which visiting parents and students could participate), visited with prospective students and their parents about UNI, and answered questions about the biology program at UNI.

Participant, UNI Department of Residence “Faculty Friends” Program 2001

Nominated and served as “faculty friend” to Noehren Hall.

Invited Speaker, University of Northern Iowa Career Fair 1997

Educational Talent Search, Upward Bound and Success Street

Careers in Health Care and Biology. Presentation to visiting students on the variety of careers that are possible in both health care and biology. Instructed students in use of various health care instruments (sphygmomanometers, etc.).

Other Professional Service

SynDaver Corporation Consultant 2015-present

Consult with SynDaver Corporation, providing information regarding corrections and improvement of SynDaver (synthetic cadavers) anatomy, including muscle anatomy, origin, and insertion, as well as anatomy of vessels, organs, and nerves. The current (second

generation) iteration of the SynDavers includes many of these suggestions and corrections. At the request of the SynDaver Corporation, I am in frequent communication with faculty from other institutions, answering questions regarding SynDaver use in the lab, the advantages and disadvantages of the use of SynDavers versus preserved animals for the study of muscles, nerves, organs and vessels; grade improvement following incorporation of SynDavers in the Anatomy lab; care of SynDavers, etc.

Participant (nominated)

2005

College Board Validity Study in Science

Center for Educational Research, University of Oregon, Eugene, Oregon

Participant in study regarding expectations of incoming students and content taught in entry-level science classes. Included in-depth discussions regarding entry-level science classes, course syllabi, course description, course assignments and exams, and other documents related to the entry levels science courses.

Benjamin Cummins Publishing Co., San Francisco, CA

2004

“Summit for Teaching Biology to Non-Biology Majors” (participant)

Conference participants shared ideas regarding the most effective ways to engage non-biology majors in biology classes. Topics included music, “real life” stories, group work, application of content, etc.

Service to the Community

Allen College of Nursing

February 2022

UNI Anatomy and Physiology Course and Expectations at Allen College (nursing)

Waterloo, Iowa

Met with members of Allen College of Nursing faculty and UNI personnel, including per-nursing advisor, to discuss expectations for the Anatomy and Physiology course sequence for pre-allied health students.

Allen College of Nursing

2012-present

Advisory Committee member, Medical Laboratory Science Program

Waterloo, Iowa

Member of Advisory Committee, which meets semi-annually to address issues, concerns, progress, changes, and updates in the Allen College Medical Laboratory Science Program.

Allen College of Nursing

2012-present

Advisory Committee Member, Radiography Program

Waterloo, Iowa

Member of Advisory Committee, which meets semi-annually to address issues, concerns, progress, changes, and updates in the Allen College Radiography Program.

Event Supervisor, Iowa Science Olympiad

2019

Disease Detectives

University of Northern Iowa

Planned, developed, and wrote extensive comprehensive exams for the event, “Disease Detectives” for the Iowa Science Olympiad. Developed separate exams for middle and high school students. Administered and graded exams on Science Olympiad Day, ranked schools from highest to lowest and reported rankings.

Consultation with Kirkwood Community College Faculty 2017-2019

Consultation with Kirkwood Community College Anatomy and Physiology instructor. Demonstrated the use of SynDavers in our Anatomy and Physiology labs; advised regarding care and use of SynDavers, as well as a variety of other lab activities.

Consultations with various venues 1999-2018

Consultations with various venues, some on multiple occasions, including Mt. Mercy College, Cedar Falls High Schools, Dike-New Hartford High School, Kirkwood Community College, Janesville Consolidated High Schools, Allen College of Nursing, Black Hawk County Health Department, Waterloo Community Schools, Hawkeye Community College, Lincoln Elementary School (Cedar Falls) and Cedar Rapids Community Schools.

Provided laboratory guidelines, lab activities, instructions, analysis and application questions and evaluation criteria to enable faculty and students to perform various laboratory experiments including:

DNA extraction from human cheek cells,

DNA Fingerprinting - Gel Electrophoresis

Allele Frequency Analysis of the D1S80 Allele in Humans

Infectious Disease Transmission Simulation and Epidemiology of Disease

Examination and Identification of the Human Brain and Human Heart models

Examination and Identification of Internal Organs and Vessels in Humans

Dissection and Examination of the Brain and Pig Heart

Pedigrees

Human Genetics, Genetic Disorders, Genetic Counseling and Genetic Screening

Sensory perception and Reflexes

Murder Mystery: Making Sense of It All

Anatomy and physiology of the eye, ear, hearing, balance, taste and smell

Hematology and Cardiovascular physiology

Muscle Contraction and muscle physiology

Invited instructor 2004

Iowa School for the Blind, Vinton, Iowa

Anatomy of the Eye and Educational Implications of Low Vision

Half day, in-depth presentation on anatomy and physiology of the eye, including many common eye diseases, which affect the population. Included lecture, as well as hands-on activities involving manipulation of eye models, worksheets, etc.

Member, Parent and Teacher Advisory Council 2001-2009

Malcolm Price Lab School/Northern University High School

Cedar Falls, Iowa

Attend monthly meetings with parents, faculty, school principals, school director, College of Education dean (as needed) and other council members to discuss issues, concerns, progress, changes, and updates related to Price Laboratory School/Northern University High School.

Girl Scout Leader 1993-2000

Malcolm Price Laboratory School, Cedar Falls, IA

Girl Scout Leader for two elementary – middle-school Girl Scout troops at Malcolm Price Lab School. Many of the Girl Scout activities involve UNI and science - field trips to various UNI facilities, activities involving health (blood pressure, pulse, exercise, disease transmission and prevention of disease), anatomy and physiology (body function,

movement, sports), and the environment (field trips, nature walks).

Guest Teacher

1994-1998

Malcolm Price Laboratory School Cedar Falls, IA

Guest teacher for 2nd, 4th, and 6th grade classes - discussing topics including sexually transmitted diseases, infectious diseases, skeletal system, hematology, and muscle physiology at age-appropriate levels.

Coordinator, Middle School Student Visit to UNI Biology

1996

Cedar Falls, IA

Designed, planned, and coordinated visits of sixth grade students (from Malcolm Price Lab School) to UNI Biology Dept. Students participated in a variety of lab exercises, including hematology, muscle physiology, anatomy of bones and joints, and genetics. Assisted in evaluation of student performance in laboratory exercises.

PROFESSIONAL AFFILIATIONS

Member, American Nurses Association

Member, Human Anatomy and Physiology Society

Member, Sigma Theta Tau Honor Society

Member, Phi Kappa Phi Honor Society

LICENSES

Registered Nurse, State of Iowa.

Registered Nurse, State of Idaho.

CERTIFICATIONS

CPR instructor, certified, American Heart Association

High school science educator, biology. State of Oregon.

High school science educator, science. State of Florida.