

The University of Texas  
Health Science Center at San Antonio



*Graduate School  
of Biomedical Sciences*

*Spring 2020  
Commencement Program*

*Commencement  
Program*

## **Our Mission**

The mission of The University of Texas Health Science Center at San Antonio is to make lives better through excellence in education, research, health care and community engagement.

Strategies for achieving this mission are:

- Educating a diverse student body to become excellent health care providers and scientists.
- Engaging in research to understand health and disease.
- Commercializing discoveries, as appropriate, to benefit the public.
- Providing compassionate and culturally proficient health care.
- Engaging our community to improve health.
- Influencing thoughtful advances in health policy.

## **Our Purpose**

The purpose of The University of Texas Health Science Center at San Antonio is to provide the best in health careers education, biomedical research, patient care and community service to San Antonio and the South Texas/Border Region. Through undergraduate, graduate and postgraduate programs, the faculty is committed to educating health professionals who will provide excellent patient care and research that can be applied to treat and prevent disease.

## **Graduate School of Biomedical Sciences Mission**

The Graduate School of Biomedical Sciences provides an individualized, diverse and multidisciplinary learning environment for students to develop the knowledge, skills and creativity necessary to succeed in the evolving biomedical disciplines.

## **The Order of Exercises \***

### **Processional**

The audience is asked to remain seated for the procession.  
Additionally, guests are requested to please silence all cell phones for the duration of the ceremony.

### **Academic Procession**

Nicquet Blake, Ph.D.  
Senior Associate Dean  
Graduate School of Biomedical Sciences

### **Presiding**

David S. Weiss, Ph.D.  
Dean  
Graduate School of Biomedical Sciences

### **Greetings**

William L. Henrich, M.D., MACP  
President  
The University of Texas Health Science Center at San Antonio

### **Graduate Student Address**

Jodie Paige Gray  
Radiological Sciences Program  
Class of 2020

### **Presentation of Candidates for Degrees**

Timothy D. Raabe, Ph.D.  
Associate Dean  
Graduate School of Biomedical Sciences

### **Conferring of Degrees**

William L. Henrich, M.D., MACP  
President  
The University of Texas Health Science Center at San Antonio

### **Recessional**

As a courtesy to the graduating class, guests are requested to please refrain from leaving until after the recessional.

### **Reception**

*The University of Texas Health Science Center at San Antonio  
Long Campus Holly Auditorium Foyer*

*\*Anticipated Order of Exercises prior to the COVID-19 pandemic.*

## **Honor Cords**

Red, white and blue cords identify Veterans of the United States Armed Forces and active duty military personnel. The cords are provided in appreciation of their service to our nation and defense of the freedoms we enjoy.

Blue and green cords identify M.D./Ph.D. students. The cords are provided to highlight the dual degree status of physician-scientists as they pursue both doctoral (blue) and medical (green) degrees.

**The University of Texas  
Health Science Center at San Antonio  
Graduate School of Biomedical Sciences**

David S. Weiss, Ph.D.

Dean

Nicquet Blake, Ph.D.

Senior Associate Dean for Admissions and Student Affairs

Timothy D. Raabe, Ph.D.

Associate Dean for Academic Affairs

José E. Cavazos, M.D., Ph.D.

Assistant Dean for the M.D./Ph.D. Program

**Graduate Programs in Biomedical Sciences**

**Doctoral Programs**

**Cellular and Structural Biology**

Babatunde Oyajobi, Ph.D.

Chair of Committee on Graduate Studies

Christi A. Walter, Ph.D.

Department Chair and Program Director

**Integrated Biomedical Sciences**

Renee Yew, Ph.D.

Chair of Committee on Graduate Studies

Keith Krolick, Ph.D.

Program Director

**Microbiology and Immunology**

Keith Krolick, Ph.D.

Chair of Committee on Graduate Studies

Michael Berton, Ph.D.

Interim Department Chair and Program Director

**Pharmacology**

Yui-Wing Francis Lam, Ph.D.

Chair of Committee on Graduate Studies

Alan Frazer, Ph.D.

Department Chair and Program Director

**Radiological Sciences**

Jessica Nute, Ph.D.  
Chair of Committee on Graduate Studies

Andrew Sampson, Ph.D.  
Program Director

**Translational Science**

Christopher R. Frei, Pharm.D.  
Chair of Committee on Graduate Studies and Program Director

**Doctorate in Medical Physics**

Neil Kirby, Ph.D.  
Chair of Committee on Graduate Studies

Niko Papanikolaou, Ph.D.  
Program Director

**Master of Science Programs**

**Cell Systems and Anatomy**

Ramaswamy Sharma, Ph.D.  
Chair of Committee on Graduate Studies

Christi A. Walter, Ph.D.  
Department Chair and Program Director

**Clinical Investigation and Translational Science**

Helen Hazuda, Ph.D.  
Interim Chair of Committee on Graduate Studies and Program Director

**Immunology and Infection**

Peter Dube, Ph.D.  
Chair of Committee on Graduate Studies and Program Director

**Medical Health Physics**

Jessica Nute, Ph.D.  
Chair of Committee on Graduate Studies

Andrew Sampson, Ph.D.  
Program Director

**Personalized Molecular Medicine**

Renee Yew, Ph.D.  
Chair of Committee on Graduate Studies and Program Director

Z. Dave Sharp, Ph.D.  
Co-Program Director

## **Graduate Program in Nursing Science**

Eileen T. Breslin, Ph.D., R.N., FAAN  
Dean  
School of Nursing

Heidi Worabo, D.N.P., RN, FNP-B.C.  
Chair of Committee on Graduate Studies

Sara L. Gill, Ph.D., RN, IBCLC, FAAN  
Associate Dean for Graduate Studies

## **Graduate Programs in Dentistry**

### **Master of Science Programs**

Peter M. Loomer, B.Sc., D.D.S., Ph.D., MRCD(C), FACD  
Dean  
School of Dentistry

#### **Dental Hygiene**

Melanie Taverna, M.S., RDH  
Chair of Committee on Graduate Studies and Program Director

#### **Dental Science**

Suman Challa, B.D.S., M.S.  
Chair of Committee on Graduate Studies and Program Director

### **Advanced Education in General Dentistry Track**

Luis Yepes, D.D.S.  
Track Leader

#### **Endodontics Track**

Nikita Ruparel, D.D.S., M.S., Ph.D.  
Track Leader

### **Oral and Maxillofacial Radiology Track**

Hassem Geha, D.D.S., M.D.S.  
Track Leader

#### **Orthodontics Track**

Ravikumar Anthony, D.D.S., M.S.  
Track Leader

#### **Pediatric Dentistry Track**

Maria-Jose Cervantes, D.D.S., M.S.  
Track Leader

#### **Periodontics Track**

Brian Mealey, D.D.S., M.S.  
Track Leader



**Prosthodontics Track**  
E. Matthew Lamb, D.D.S.  
Track Leader

**Joint Program in Biomedical Engineering with  
The University of Texas at San Antonio**

Eric Brey, Ph.D.  
Program Director  
Chair, Department of Biomedical Engineering  
The University of Texas at San Antonio

Jean Jiang, Ph.D.  
Associate Program Director  
Chair of Committee on Graduate Studies  
The University of Texas Health Science Center at San Antonio

**Joint Program in Translational Science with  
The University of Texas at San Antonio,  
The University of Texas at Austin and  
The University of Texas Health Science Center at Houston  
School of Public Health**

Christopher R. Frei, Pharm.D.  
Chair of Committee on Graduate Studies and Program Director

**Joint Program in Pharmacy with  
The University of Texas at Austin**

M. Lynn Crismon, Pharm.D.  
Dean, College of Pharmacy  
The University of Texas at Austin

**Graduate Certificate Programs**

**Cancer Prevention**  
Michael Wargovich, Ph.D.  
Program Director

**Translational Science**  
Linda McManus, Ph.D.  
Program Director

**Doctor of Philosophy  
Degree Conferred on August 23, 2019**

**Iriscilla Imabary Ayala**

Cellular & Structural Biology

*The Role of the Diabetes Gene and WNT Pathway Effector  
TCF7L2 in Hepatic Metabolic Zonation*

**Kristen Rogers Canady**

Microbiology & Immunology

*Novel Approaches to Uncover Host Genetic Correlates of HIV Disease  
Progression*

**Paul Anthony Martinez**

Pharmacology

*Biogenic Aldehydes as Therapeutic Targets in Parkinson's Disease*

**Brian Joseph Stoveken**

Cellular & Structural Biology

*Engineering and Characterization of Photoconvertible Fluorescent Proteins  
for Quantitative Localization in Microscopy*

**Erin Hannah Sybouts**

Cellular & Structural Biology

*Identification of Critical Factors for Replication Fork Stability in Cancer*

**Master of Science  
Degrees Conferred on August 23, 2019**

**Murad Awadh Alrashdi**

Dental Science

*Effect of Oral Health Campaign on Children of Refugee Families*

**Cristina Maria Leon-Pineda**

Dental Science

*Inhibition of Demineralization at Restoration Margins of Z100 and Tetric  
Evoceram Bulk Fill in Dentin and Enamel*

**Doctor of Philosophy  
Degrees Conferred on December 20, 2019**

**Jacob Tyler Boyd**

Integrated Biomedical Science

*High Omega-6 Diet Produces Chronic Peripheral Neuropathy that is Rescued by Altering Membrane Lipid Content or Activity*

**Shahida Karina Flores**

Integrated Biomedical Science

*Functional Characterization of Tumor-Associated Germline TMEM127 Variants*

**Liezl Edralin Francisco**

Biochemistry

*Discovery of Small-Molecule Inhibitors of Excision Repair Cross-Complementation Group 1 and Three Prime Exonuclease 2*

**Meghan Allyse Guzman**

Integrated Biomedical Science

*Insights into the Molecular Mechanisms and Development of Novel Therapeutics to Treat Human Schistosomiasis*

**Sijia He**

Integrated Biomedical Science

*The Role of Secretory Factor Leucine-Rich Alpha-2-Glycoprotein 1 in Obesity-Induced Hepatic Steatosis and Insulin Resistance*

**Sabrina Patrice Martinez**

Microbiology & Immunology

*Characterization of Novel Inhibitor of Candida Albicans Filamentation Produced by Candida Glabrata*

**Mary Lee A. Potter**

Nursing Science

*Unfinished Nursing Care: A Mixed-Methods Study*

**Master of Science  
Degrees Conferred on December 20, 2019**

**Michelle DeMoss**

Dental Hygiene

*Dental Hygienists' Role in the Opioid Syndemic: Assessing Attitudes and Perceptions*

**Erika LaShay Demel**

Integrated Biomedical Science

*The Effect of Transforming Growth Factor Beta on Antigen-Specific CD8+ T Cell Response in the Colon*

**Vinutha Ganapathy**

Clinical Investigation/Translational Science

*The Healthy Aging Index and its Association with Morality in Older Mexican and European Americans*

**Li Liu**

Integrated Biomedical Sciences

*Impact of Ethanol Consumption in the Heart Subjected to Ischemia and Reperfusion Injury: The Role Mitofilin Plays*

**Humberto Guadalupe Villarreal**

Clinical Investigation/Translational Science

*Transitional Care of Service Members with Genitourinary Injury*

**Travis Chad Williams**

Immunology and Infection

*TGM3 Overexpression and its Effect on Cancer Development*

**Doctor of Philosophy  
Degree Conferred on February 28, 2020**

**Marisol Arizmendi Breton-Leija**

Nursing Science

*El Valor De La Amabilidad: Experiences of Predominantly Spanish -Speaking Woman with Prenatal Care and Giving Birth in the United States, A Latinidad Ethnographic Research*

**Ngonidzashe Benson Madungwe**

Biomedical Engineering

*Insights into Mitochondrial Function in Cardiac Ischemia-Reperfusion Injury*

**Ashley Lauren Silvia**

Integrated Biomedical Science

*Post-Transcriptional Regulation of Ebola Virus Encoded Proteins*

**Xue Yin**

Integrated Biomedical Science

*Role of YAP/TAZ in the Initiation of Human Pancreatic Ductal Adenocarcinoma*

**Candidates for the  
Doctorate of Medical Physics  
May 15, 2020**

**Anna Laura Licón**

*An Open Source Tool to Visualize Potential Cone Collisions while Planning SRS Cases*

**James Alan McCulloch**

*Electron Cutout Factor Variation Across Centers with Matched Linear Accelerators*

**Daniel Jeffrey Nicewonger**

*HDR Applicator Commissioning Using Linear Accelerator On-Board Imaging*

**Alex Liang Zhao**

*Implementation of an Automated Digital Radiography Quality Control Program*

**Candidates for the  
Doctor of Philosophy  
May 15, 2020**

**Nema Bassiri-Gharb**

Radiological Sciences

*Dosimetric Effects of Inhomogeneous Media for Sub-MeV Photon  
Radiotherapy*

**Shawn Ryan Gray**

Biomedical Engineering

*Astrocytes Sense the Integration of Sensory Input with Arousal by  
Noradrenergic Terminals*

**Jodie Paige Gray**

Radiological Sciences

*Structural and Functional Alternations in Major Depressive Disorder: A  
Multi-Model Meta-Analytic Approach to Network Modeling*

**Frank Herkules**

Integrated Biomedical Sciences

*N-Terminal Auto-Ubiquitylation of the TRIM5 $\alpha$  Antiviral Factor  
is Controlled by the Proximity of Three Ring Domains Present in the  
Hexagonal TRIM5 $\alpha$  Assemblies Formed Atop Retroviral Capsids*

**Shih-Bo Huang**

Integrated Biomedical Sciences

*SIRT1, A Double-Edged Sword During Prostate Pathogenesis*

**Brian Sean Iskra**

Integrated Biomedical Sciences

*Assessing the Heterogeneity of Cardiac Non-Myocytes and the Effect of  
Cell Culture with Integrative Single Cell Analysis*

**Maritza Viridiana Quintero**

Integrated Biomedical Sciences

*Investigating the Mechanisms Involved in Early Steps of Ebola Virus  
Infection*

**Néstor Alexis Ruiz González**

Radiological Sciences

*A Device for Beam Quality Measurements in Computed Tomography*

**Candidates for the  
Master of Science  
May 15, 2020**

**Arwa Muthana Al Hugail**

Dental Science

*Evaluation of Healing at Molar Extraction Sites with Ridge Preservation Using a Non Resorbable Dense Polytetrafluoroethylene (dPTFE) Membrane*

**Ahmed Ali Alelyani**

Dental Science

*Quantitative Assessment of Mechanical Allodynia and its Association with Endodontic Diagnosis, Pre-Operative Pain Levels and Catastrophizing*

**Neda Almojel**

Dental Science

*Inhibiting the Growth of Candida albicans Biofilm on Denture Materials by Organo-selenium-containing Dental Sealant*

**Ahmed Kattab Alotaibi**

Dental Science

*Comparing Maxillary Incisors Extrusion Using Clear Aligner Therapy with Facial Attachments versus Facial and Lingual Attachments*

**Akemi Kushida Arzouman**

Dental Science

*Impact of Different Surgical Protocols on Dimensional Changes or Oral Soft Tissue Autografts. A Randomized Controlled Trial*

**Sana Banday**

Dental Science

*Differences in Maxillary and Mandibular First Molar Shape and Size in Class I, Class II and Class III Malocclusions in Hispanics Using Geometric Morphometric Analysis*

**Lizandre Belanger**

Dental Science

*Identification of Therapeutic Targets in Diabetes-Induced Breast Cancer Metastasis*

**Corbin Brady Clifton**

Dental Science

*External Root Absorption of Mandibular Incisors in Patients Treated with Empower Self-Ligating Brackets versus Invisalign: A Cone-Beam Computed Tomography Study*

**Erica Michelle Newman Evans**

Cell Systems and Anatomy

*A Cadaveric Study of Variations of the Facial Artery*

**Wesley Robert Gass**

Dental Science

*CBCT Evaluation of Inter-Arch Transverse Skeletal Relationships in Non-Crossbite Subjects*

**Sean Bradford Hershberger**

Dental Science

*Effect of Proprietary Filter Application and Artifact Removal Sequences on Contrast-to-noise ratio*

**Jenna Claire Hyer**

Dental Science

*Detection of Dental Calculus Using Digital Radiography*

**Hillary Renee Key**

Dental Science

*Radiographic Distance from the Cemento-Enamel Junction to the Alveolar Crest in Periodontal Health*

**Sarah Michelle Khoury**

Cell Systems and Anatomy

*Investigating the Role of Mitochondrial Trifunctional Protein Subunits in Neuroprotection*

**Michael Santino Luna**

Dental Science

*Characterization of Epithelial Lineage Resulting in the Formation Enamel and Junction Epithelium*

**Derick Esker Mayberry**

Dental Science

*Effects of Advanced Glycation End-Products on Osteoblasts*



**Aaron Clark Nelson**

Dental Science

*A Randomized control Trial on the Impact of Healing Time on Wound Healing Following Ridge Preservation Using a 70/30% Combination of Mineralized and Demineralized Freeze-Dried Bone Allograft*

**Marie Elizabeth Richey**

Dental Hygiene

*Job Satisfaction and Retention of Part-Time Dental Hygiene Faculty in the US and Canada*

**Adam Edward Saltz**

Dental Science

*Different Phenotype Protocols for Immediate Dental Implants*

**Chris Yang**

Dental Science

*Fracture Resistance on Anterior Full Coverage High Translucent Zirconia Restoration Following Endodontic Access Preparation*

**Joint Degree  
Candidates for the Degree  
Doctor of Pharmacy  
May 15, 2020**

**Brenda Astorga  
Courtney Baus  
Eldridge Boyce  
Claire Brandt  
Alana Coleman  
Richard Crowell  
Ravi Gandhi  
Kevin Gian  
David Giang  
William Godinez  
Anjeanette Gonzalez  
Chelsea Griffin  
James Hsu  
Ashly Nasima Ibrahim  
Christopher Jackson  
Alyeshka Jusino-Acosta  
Kaitlin Kennedy  
Hanna Kim  
Falak Lalani  
Andres Leos  
Robert Moton  
Hannah Mucha  
Rupesh Mayur Panchal  
Taylor Patek  
Jessica Robertson  
Sarvnaz Sadrameli  
Ryan Shaw  
Steven Swank  
Michelle Tran  
Melissa Weller  
Patrick Whaley  
Alexander Yap  
Jessica Ye**

**Candidates for the  
Graduate Certificate in Translational Science  
May 15, 2020**

**Aman Kaur**

**Candidates for the  
Doctor of Philosophy  
June 26, 2020**

**Samantha Marlene Adler**

Integrated Biomedical Science

*Stress Effects on Neuronal Connectivity in the Orbitofrontal Cortex*

**Kristina Andrijauskaite**

Translational Science

*Novel Role of Natural and Synthetic Glucocorticoids in Breast and Colon  
Cancer or Stress can Kill You*

**Eric Christopher Baeuerle**

Integrated Biomedical Science

**Laura Caffisch**

Integrated Biomedical Science

**Cassandra Dee Leonardo**

Radiological Sciences

*Genetics Influence over Age-Related Functional Connectivity Changes  
within the Default Mode Network of the Aging Brain*

**Isabel Calderon Martinez**

Nursing Science

*Exploring Demands Faced by Today's Nurse Leaders*

**Miryam Marta Pando**

Integrated Biomedical Sciences

*Regulation of Peripheral Kappa Opioid Receptor Mediated Antinociception*

**Holly Marie Parenica**

Radiological Sciences

*Clinical Implementation of Monte Carlo Modeling of the Elekta Versa HD  
Linear Accelerator with the Agility Collimator Head*

**Petra Elizabeth Jans Pederson**

Integrated Biomedical Sciences

*Novel Approaches to Improving the Treatment of Triple Negative Breast Cancer*

**Carlos Eduardo Rivera**

Integrated Biomedical Sciences

*B Cell TLR/BCR Co-engagement Induces Hypermutated and Class-Switched Protective Antibody Responses in Absence of T Cells*

**Pooja Yadav**

Integrated Biomedical Sciences

**Gabriela Zaragoza**

Nursing Science

**Candidates for the  
Master of Science  
June 26, 2020**

**Ahmed A. Almeshari**

Dental Science

*Accuracy of CBCT machine in detecting root fracture when Metal Artifact Reduction (MAR) filter is used at different setting of Kvp on Plameca ProMax3D*

**Morgan Courtney Bucknor**

Cell Systems and Anatomy

*The Role of the Kynurenine Pathway on Neural Stem Cell Function*

**Adrian Veronique Cebula**

Immunology and Infection

*Yersinia-mediated Colorectal Cancer Cell Death*

**Jaime Coronado**

Immunology and Infection

*A Novel DNA-Binding Domain Important For Antiviral Function*

**Ronald Rabaisri Cutler**

Cell Systems and Anatomy

*Microglia Phagocytosis Contributes to Neural Stem Cell Loss in the Aging Subventricular Zone*

**Samantha K. D'Spain**

Immunology and Infection

*Agrobacterium tumefaciens Mediated Transformation of Candida glabrata*

**Samin Javanmardi**

Personalized Molecular Medicine

*MED12 Mutation Associated Genomic Instability in Uterine Fibroids*

**Danielle Brooke Molotsky**

Immunology and Infection

*The Identification of Adhesion Domains and Antigenic Regions of the P140 Protein from Mycoplasma genitalium*

**Gretchen Anne Morrison**

Immunology and Infection

*IGS Sequence Analysis by Nanopore Sequencing of Cryptococcus Species*

**Dariela Aracely Perez**

Immunology and Infection

**Jason Douglas Pizzini**

Immunology and Infection

**Ivan P. Rubalcava**

Cell Systems and Anatomy

**Rana Aly Sharaf**

Dental Science

**Tai Angelica Tong**

Immunology and Infection

*Identification and Characterization of a Novel Virulence Factor in Mycoplasma genitalium*

**Rolando Treviño Jr.**

Immunology and Infection

*Identification of Novel antischistosomal drugs*

**Chioma Nnasom Udeaja**

Immunology and Infection

*Redox Regulation of Autophagy in Thymic Stromal Cells*

**Kizil Ather Yusoof**

Immunology and Infection

*Efficacy of the 12-well Color Plate Tuberculosis Diagnostic Test*

# The University of Texas System Board of Regents

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Vice Chairman, Houston

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Vice Chancellor and General Counsel



**The University of Texas  
Health Science Center at San Antonio  
Executive Leadership**

William L. Henrich, M.D., MACP  
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Senior Executive Vice President and Chief Operating Officer

Eileen T. Breslin, Ph.D., RN, FAAN  
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Vice President and Chief Human Resources Officer

# Academic Ceremony and Regalia

Commencement ceremonies are grounded in ancient religious, educational and civic rituals. Today's ceremony begins with a grand procession led by the Marshal, followed by the President, Dean, Dignitaries, Assistant Marshals, Faculty and Graduates. Inspiring to observe, the procession demonstrates unity and collegiality among health care professionals while highlighting their distinctiveness with symbols of robe, cap, tassel, hood and cord.

## The University Mace

The Marshal leads the academic procession carrying the president's academic mace, a polished brass scepter that represents The University of Texas Health Science Center at San Antonio's authority to educate students and grant degrees. The mace is decorated with the university seal and the caduceus, an ancient depiction of two snakes wrapped around a winged staff, sometimes used as a symbol of the medical profession.

## The Academic Regalia

The contemporary tradition of wearing academic regalia for university ceremonies dates to the 11th and 12th centuries, when the great European universities were being established. At that time, students organized themselves into guilds, or associations, called universitates. Members of the universitate wore distinctive gowns to identify their group and differentiate between apprentices and masters. A "bachelor" was a man who assisted another and was usually an apprentice within the guild. A "master" was recognized by guild superiors as having reached a high level of expertise and was licensed to practice and teach as a full-fledged guild member.

## The Robe

During the medieval period, men and women alike wore long robes as everyday clothing. The simplicity or elegance of the individual's robe identified them as peasants, clergy, students or royalty. To some extent, similar distinctions are made in today's academic regalia. For example, the bachelor's robe is simply designed with long pointed sleeves. It is said that the sleeves were originally used by the student, or apprentice, to carry scrolls on which their lessons were written. The master's robe is similar in style, but the long, oblong sleeves are closed. The doctor's robe is the most elaborate, with a long, flowing body, velvet trim on the front and large bell-shaped sleeves with three velvet bars. Typically, academic robes are made of black fabric, but some universities have respectfully adopted other colors for doctoral gowns.

## The Hood

The hood is a symbol of achievement — the means by which the degree and the college awarding the degree are readily recognized. The size and shape emphasize the degree level — the Doctor being the largest, followed by the Master and the Bachelor. The colors in the satin lining are those approved and authorized by the college or university conferring the degree. The colors for The University of Texas graduate are orange and white...the color of the velvet border and robe and sleeve, if any, indicates the degree earned (dark blue for Philosophy, light blue for Education, gold for Science, etc.).

## Degrees and Colors

Arts	White
Dentistry	Lilac
Education	Light Blue
Fine Arts	Brown
Law	Purple
Library Science	Lemon
Medicine	Kelly Green
Nursing	Apricot
Pharmacy	Olive Green
Philosophy	Dark Blue
Public Health	Salmon Pink
Science	Gold
Veterinary Science	Gray

During today's ceremony, many faculty will be wearing doctoral hoods of varied colors that indicate the degree-granting university and the person's academic discipline. Some faculty wear hoods for the Doctor of Philosophy, trimmed in dark blue velvet, which represents mastery of learning and scholarship in any academic discipline and does not represent the academic discipline of philosophy.

Individuals with master's and doctoral degrees wear elegant hoods lined and trimmed with satin and velvet that tell about the person's academic history and credentials. Hoods were originally worn by monks to cover their shaved heads in cold weather and, when removed from the head, the hood could be used as a container for collecting alms. The master's hood is 3½ feet long, and the doctoral hood is longer and wider.

### **The Cap and Tassel**

In the United States, two styles of caps are worn with academic robes: the mortarboard, a flat, stiff board that appears to balance on the head, and the tam (short for tam o'shanter), a soft hat made of velvet. Generally, mortarboards are covered with black fabric; tams may be of various colors, depending on the wearer's academic field or the institution's tradition. The square, flat shape of the mortarboard represents the book, a symbol of scholarship. Falling off the side of the mortarboard or tam is a tassel, which symbolizes the university mace.

This Commencement Program represents a list of students expected to fulfill all the degree requirements in their respective programs as of May 9, 2020. Although the list is verified by the Dean's Office prior to publication, we apologize in advance for any inadvertent omission or inclusion of names.

Some information adapted from:

Walters, H. (1939). *The Story of Caps and Gowns*. Chicago: E. R. Moore Company.

Sullivan, E. (1997). *An Academic Costume Code and An Academic Ceremony Guide*. Walter de Gruyter, Inc.

# Notes

# Notes

