Graduate Student Handbook for the Animal & Biomedical Industries Graduate Program

The University of Arizona
College of Agriculture and Life Science
The School of Animal and Comparative Biomedical Sciences
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Introduction

Welcome to the Animal and Biomedical Industries (ABI) Master of Science program. This first-of-its-kind Master’s degree program brings together life sciences with business and management expertise that empowers you with the confidence and connections to excel in a range of in-demand fields. It is envisioned that ABI students will be able to critically analyze the interactions among animals, humans and their shared environments and provide solutions that could improve health systems delivery; understand contract development, negotiations, basic accounting, entrepreneurship, and business development; and how the perception of animal roles varies by culture, rural versus urban, economics, religion, geography, ecosystems, policies and politics.

This program is designed for students who have completed a Bachelor’s Degree in Animal Science or other related fields, and wish to further their training in order to be more competitive for entry level management positions.

The faculty and staff of the School of Animal and Comparative Biomedical Sciences are looking forward to working with you during your graduate education. This Handbook will help you meet all of the various requirements for successful completion of an advanced degree. Your major advisor will help you, but you must take the initiative in seeking advice. This handbook aims to present all the procedures and requirements for a master’s degree in animal and Biomedical Industries, however, the University of Arizona Graduate College is the only official listing of these procedures and requirements and can be referenced at http://grad.arizona.edu.

We look forward to working with you over the following year and wish you success in your endeavors.

Fiona McCarthy, Ph.D.
Associate Professor, School of Animal & Comparative Biomedical Sciences
Head of Graduate Studies, Animal & Biomedical Industries
The School of Animal and Comparative Biomedical Sciences offers a Master of Science (Non-Thesis Option) in Animal & Biomedical Industries (ABI) is designed for students to be more competitive for positions in entry level management in the animal and bioscience industries. The first of its kind in the nation, the Animal & Biomedical Industries program combines business instruction— including economics, marketing, and management— with rigorous scientific coursework to prepare students for management and other industry development positions in government organizations, corporations, consulting agencies, and higher education.

The ABI MS program will prepare students for new and evolving career paths in Animal and Biomedical Industries through enhanced education in the Three Foundational Pillars: Animal-Human Interdependence, One Health, and Commerce. Courses will utilize a curriculum emanating from the Three Pillars that develops critical thinking and professional skills and has clear performance expectations through the use of outcome-based objectives. Scientific principles will be emphasized through the integration of biomedical sciences and engage students in an active learning environment using a variety of effective teaching methods and educational resources that fosters collegiality, while promoting self-esteem, confidence, cultural awareness, and personal and professional ethics.

Degree Requirements
The non-thesis MS in Animal and Biomedical Industries (ABI) is a degree in which is completed by coursework only. Therefore, in order to graduate with an MS in ABI, you need to complete 31 units of UA graduate level credit, which is specifically outlined below:

Fall Semester
ACBS 564a Physical Science for One Health (3 units)
ACBS 566 Principles of Disease (3 units)
ACBS 567 Computation in Biomedicine (3 units)
ACBS 568a Bioeconomy, Marketing, and Business Principles (3 units)
ACBS 569a Ethology, Evolution, Ethics, and Animal Handling (3 units)

Spring Semester
ACBS 564b Physical Science for One Health (3 units)
ACBS 568b Bioeconomy, Marketing, and Business Principles (3 units)
ACBS 569b Ethology, Evolution, Ethics, and Animal Handling (3 units)
ACBS 570 Interactions of Animals, Humans and Ecosystems (3 units)
ACBS 571 Risk Assessment, Management and Communication (3 units)
ACBS 599/909 Independent Study/Master’s Report (1 unit)

To be awarded the MS Degree in Animal and Biomedical Industries, student must have a least a 3.0 cumulative GPA in the 31 completed units. It is required that coursework is completed on a full-time basis and completion of your degree take no more than 1 academic year.
Career Outlook for Graduates with an MS in Animal and Biomedical Industries

Students who complete our 1 year MS program in ABI, have career opportunities in the following areas:

**Business**
- Agribusiness Manager
- Buying Firms
- Commercial Research/Product Development
- Consultants - Veterinarians, Nutritionists, Biotechnologists, Management
- Feed Companies
- Financial/Investment Services
- Individual Proprietors
- Laboratory Animal Management
- Livestock Equipment Representative
- Manage Livestock Sales/Distribution/Marketing Systems
- Manage Meat/Poultry/Egg/Milk Processing Plants
- Manage Ranches/Farms/Feedlots
- Manage Research Farms and Facilities
- Manage Training/Boarding Facilities
- Management Consultant
- Marketing Manager
- Sales Manager

**Livestock Industry**
- Agricultural Foundations
- Animal Industry leadership Positions
- Consultants - Veterinarians, Nutritionists, Biotechnologists, Management
- Dairy, Meat, and Seafood Technical Assistants
- Feed Companies
- Food Quality Control/Product Development Scientists
- Humane Animal Care Services
- Industry Manager/Director
- Livestock Equipment Representative

**Equine Industry**
- Animal Boarding/Training
- Animal Industry Leadership Positions
- Consultants - Veterinarians, Nutritionists, Biotechnologists, Management
- Feed Companies
- Humane Animal Care Services
- Industry Manager/Director

**Education**
- Extension Specialists
- Laboratory Animal Management
- Laboratory Manager
Vocational Agricultural/Post-Secondary Educators
Vocational Agriculture Teacher

**Research**
- Animal Care Technician
- Animal Research technician
- Biomedical Researcher
- Commercial Research/Product Development
- Extension Specialists
- Food Safety and Security
- Food Quality Control/Product Development Scientists
- Laboratory Animal Management
- Laboratory Manager

**Public Relations**
- Breed Association Representative/Sales/Promotion
- Consultants- Veterinarians, Nutritionists, Biotechnologists, Management
- Industry Manager/Director
- News/Printers/Advertising Media

**Regulation**
- Animal Research Technician
- Commercial Research/Product Development
- Dairy, Meat, and Seafood Technical Assistant
- Food Inspectors
- Food Safety and Security
- Food Quality Control/Product Development Scientists
- Government Regulatory Agencies
- Humane Animal Care Services
- Inspection/Grading Services for Meat, Milk, Eggs & Wool
- Laboratory Animal Management
- Laboratory Manager
- Quality Control/Processing/Packing of Foods
- Public Policy

**Companion Animal Industry**
- Animal Boarding/Training
- Animal Care Technician
- Animal Industry Leadership Positions
- Companion Animal Services
- Feed Companies
ABI Graduate Committee and Departmental Contacts

ABI Head of Graduate Studies

Fiona McCarthy, Ph.D.  
Fiona McCarthy, Ph.D.  
Fiona McCarthy, Ph.D.  

ABI Graduate/Executive Committee

Fiona McCarthy, Ph.D.  
Fiona McCarthy, Ph.D.  
Fiona McCarthy, Ph.D.  

ABI Graduate Program Coordinator

J. Christina Garcia, MS  

School of Animal and Comparative Biomedical Sciences Director

Patricia Stock, Ph.D.  
Patricia Stock, Ph.D.  
Patricia Stock, Ph.D.  

The University of Arizona  
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Lingling An (anling@email.arizona.edu, 520-621-1248) Associate Professor- Ph.D. Indiana.

Dr. Lingling An is Associate Professor of Biometry in Department of Ag & Biosystems Engineering and adjunct Associate Professor of Biostatistics at the Mel and Enid Zuckerman College of Public Health at University of Arizona. Dr. An received her PhD in Statistics from Purdue University and joined the UA in 2008. Dr. An has extensive experience in collaborative research and methodological research in the areas of Statistical Bioinformatics, Genomics, Metagenomics, and Pattern recognition. Specifically, her research focuses on developing novel statistical methods and efficient computational algorithms to better utilize various types of massive data generated by high throughput biological technologies (e.g., next generation sequencing) to ask, answer, and disseminate interesting information in the quest to understand complex biomedical systems.

Crista Coppola (clcoppola@email.arizona.edu, 520-621-2355) Assistant Professor of Practice- Ph.D., Colorado.

Dr. Crista Coppola is a PhD Board Certified Applied Animal Behaviorist (CAAB) that specializes in the treatment of behavior problems in dogs, cats and horses. As an Assistant Professor of Practice in ACBS she teaches ACBS 311 Understanding Dog and Cat Behavior, ACBS 481/581 Principles of Applied Companion Animal Behavior, ACBS 482/582 Applied Companion Animal Behavior in Practice and ACBS 469B/569B Ethology, Evolution, Ethics & Animal Handling. She also teaches the ACBS 102L Introduction to Animal Science Lab Companion Animal Section. Dr. Coppola graduated with her Bachelor of Science in Zoology from North Carolina State University, her Master of Science in Animal Sciences from the University of Arizona under Drs. Bob Collier and Bill Schurg, and her PhD from Colorado State University under the guidance of internationally renowned Temple Grandin, PhD. After receiving her PhD, she completed a 2-year fellowship at the American Society for the Prevention of Cruelty to Animals in New York City and was then promoted to Lifeline Behaviorist. In 2007, Dr. Coppola started her own private practice, Dog and Company – Behavior Consulting (www.dogandco.com). She currently sees private clients in Southern Arizona and is a behavior consultant to animal control facilities and shelters across the United States, including the American Society for the Prevention of Cruelty to Animals. Dr. Coppola currently serves on the ABS Board for Professional Certification and has been the Chairman since 2010. Dr. Coppola has been involved in many high-profile cases, including evaluation of the seized dogs from the Michael Vick Estate and continues to serve as an expert witness in animal litigation cases. Dr. Coppola has a keen interest in preventing behavior problems through proper socialization and helping parents maintain healthy interactions between children and animals. The latter having become especially relevant after her first son was born in 2008. Dr. Coppola and her family share their home with one dog (Casey), three cats (Tia, Jack and Olive) and a Missouri Fox Trotter named Two Socks.
Daniel Engeljohn ([dengeljohn@email.arizona.edu](mailto:dengeljohn@email.arizona.edu), 202-355-4648), Lecturer-PhD.

Academically trained in animal science with a meat science/muscle biology specialty, as well as a specialty in human nutrition. He recently retired after 40 years at the U. S. Department of Agriculture (USDA) in Washington, DC, where he led the development of food safety policy associated with meat, poultry, and processed egg products. While at USDA, his early years focused on developing and teaching meat quality and yield grade standards for cattle. Later, at USDA, he authored several cutting-edge regulatory policies designed to protect public health, including the first shiga toxin-producing Escherichia coli beef safety standards, the Listeria monocytogenes sanitation standards for ready-to-eat meat and poultry products, the irradiation regulations pertaining to fresh meat and poultry, and the bovine spongiform encephalopathy regulations for beef. He served multiple appointments as the USDA advisor on the National Advisory Committee on Microbiological Criteria for Foods. Upon retirement, he moved to Tucson, AZ, where he was tasked with developing and teaching a food safety risk analysis course at the University of Arizona that described how competent authorities worldwide develop food safety mitigations to protect public health. He currently is developing additional food safety courses for the University of Arizona, including food safety laws and regulations, as well as food processing technology and treatments to make food safe from farm to table.

Dan Faulkner ([dfaulkner@email.arizona.edu](mailto:dfaulkner@email.arizona.edu) 520-626-5573) Lecturer- Ph.D. Nebraska.

Dr. Faulkner's research and extension activities emphasized proper nutrition and management of beef cattle. More specifically, he studies the factors that influence cow forage intake, efficiency and longevity under Arizona range conditions in order to assist Arizona beef producers in improving the economic viability and environmental impact of their beef operations.

Walt Klimecki ([klimecki@pharmacy.arizona.edu](mailto:klimecki@pharmacy.arizona.edu) or 520-626-7470) Associate Professor and Department Head (Interim), D.V.M. Ohio, Ph.D. Arizona.

He is currently Interim Chair of the Department of Pharmacology and Toxicology at the University of Arizona. His research group studies the toxic effects of human exposure to metals, with a particular focus on arsenic. His group published the first genetic association between altered human arsenic metabolism and inherited genetic variation. Subsequently their work led to an understanding of several factors that are associated with "risky" arsenic metabolism in people, including age, sex, body mass index, and ancestry. Currently his lab is studying mechanisms through which exposure to arsenic can lead to lung cancer. He is involved in teaching at the undergraduate, graduate and professional level, and he has been active in introducing active learning opportunities to the health sciences curriculum. His educational commitment extends to early training of environmental health science researchers at Arizona, where he is the Program Director of an NIEHS-funded R25 grant aimed at providing research experience and training to under-represented undergraduates.

Fiona McCarthy ([fionamcc@email.arizona.edu](mailto:fionamcc@email.arizona.edu) 520-626-2875) Associate Professor- Ph.D. Queensland.

Trained in molecular biology and virology, her current research interest focuses more on bioinformatics and genomics. She is a co-founder and current PI of AgBase, a database that provides functional annotation, tools and support for agricultural researchers dealing with large scale data sets that they wish to functionally model. As part of this work, they provide Gene Ontology (GO) data to the GO Consortium for several agricultural species, foremost amongst them.
chicken, cow and cotton. Other bioinformatics, biocuration and genomics projects include providing standardized chicken gene nomenclature; investigating tissue specific expression in chicken using transcriptomics, proteomics and proteogenomic mapping; identification and functional analysis noncoding RNAs; and developing new resources to assist in the application of genomics technologies to non-model animals. She is also affiliated with BIO5 and working to develop tools for functional annotation and analysis that can be deployed to the iPlant/iAnimal platform. McCarthy is interested in developing better resources for analysis of host-pathogen interactions in disease.

Frank (Doug) Reed (dreed@ag.arizona.edu) Adjunct Lecturer MBA (University of Arizona), B.S. Mathematics (Albright College).

Currently Principal for RGE LLC, a consulting company focusing on operations, strategy and innovation and director emeritus of the University of Arizona Race Track Industry Program (RTIP), Reed also has extensive experience as a racing official, track executive and racing and gaming industry consultant.

He was affiliated with the RTIP for 22 years and responsible for all aspects of the racing program, including administration, instruction, promotion and fundraising. Prior to joining the University of Arizona, Reed was vice president of Santa Fe Racing, Inc., which operated two pari-mutuel tracks in New Mexico. He also spent many years as a racing official, including serving as racing secretary at Arlington Park, Oaklawn Park and Rockingham Park.

Reed has been a featured speaker and presenter at a variety of industry conferences, seminars and events, including events hosted by the Asian Racing Conference, Association of Racing Commissioners International, Harness Horsemen International, International Simulcast Conference, National Council for Legislators from Gaming States and the International Conference of Gambling & Risk Taking.

H. Dieter Steklis (steklis@email.arizona.edu, 520-621-2355) Professor of Practice, PhD, California.

His present research—much of it done in collaboration with his wife and U of A colleague Netzin Steklis—concerns the history and biopsychology of human-animal relationships; the effectiveness of horse or dog therapy for improving human wellness; mountain gorilla personality and life history, the function of rough and tumble play in mountain gorillas, and the evolution of the capacity for emotional awareness in humans and other animals. Along with Netzin Steklis, he co-direct ACBS’ Human-Animal Interaction Research Initiative (HAIRI), and co-lead a summer Primate Studies Field School (administered by the U of A Office of Study Abroad) in Rwanda, Africa. Dieter Steklis earned his Ph.D. in Primatology and Biological Anthropology in 1974 from the University of California, Berkeley. That year, he joined Rutgers University as an Assistant Professor, retiring in 2004 as Professor Emeritus of Primatology. From 2005-2016, he taught at the University of Arizona South, primarily in Psychology, and served in several administrative leadership positions (Associate Dean, Division Chair) before moving to his present position in the School of Animal and Comparative Biomedical Sciences. In addition to his academic career, Steklis has held several leadership positions in the private not-for-profit sector, including serving in science and conservation leadership positions with the Dian Fossey Gorilla Fund International (link is external). His relationship with the Fossey Fund began in 1991, when he was appointed director of the Karisoke Research Center in Rwanda (1991-1993).
Subsequently, he served as the fund’s Executive Director (1993-1995), and as Chief Scientist and Vice-President (1995-2005). His many years of collaborative research with his wife on mountain gorilla behavior and conservation has been featured in scholarly journals and books, national and international magazines, radio programs, and numerous television broadcasts (including National Geographic). In recognition of their collaborative conservation work, in 2002, he and his wife received the Explorers Club “Champions of Wildlife Award”.

Netzin G. Steklis (nsteklis@email.arizona.edu, 520-621-7572) Assistant Professor of Practice, Ph.D., Arizona.

Netzin G. Steklis serves as Lecturer for University of Arizona’s Animal & Comparative Biomedical Sciences, for Family Studies & Human Development, and for UofA South. She is also an Affiliate Faculty in the Dept. of Psychology’s Program in Ethology & Evolutionary Psychology. Netzin holds a B.A. in Anthropology and Biology from the University of Chicago and an M.A. in Ecology and Evolutionary Biology from Princeton University. She also earned a UofA Graduate Certificate in College Teaching, reflecting her abiding commitment to excellence in undergraduate teaching. For more than 10 years, Netzin served as the Director of Scientific Information Resources for the Dian Fossey Gorilla Fund International, a non-profit organization dedicated to gorilla research and conservation in Africa.

Netzin’s research experience includes baboon affiliative behavior, field study of howler monkey calls in Costa Rica, the behavioral ecology of wild chimpanzees in eastern Zaire, and research at the Karisoke Research Center in Rwanda on the social organization of wild mountain gorillas, including studies on vocal communication, demography, and life history. Her current research is focused on the biopsychology of human-animal interrelationships. Additional research interests include evaluating the effectiveness of horse or dog therapy for improving human wellness, the comparative study of primate families and paternal care (especially the adaptive functions of play), the relationship between gorilla personality and life history strategies, and the study of emotional awareness from a evolutionary, comparative perspective. Netzin and her husband and colleague Dieter Steklis co-direct ACBS’ Human-Animal Interaction Research Initiative (HAIRI), and co-lead a summer Primate Studies Field School (administered by the U of A Office of Study Abroad) in Rwanda, Africa that attracts university students from all over the world.

Akrum Tamimi (akrumt@email.arizona.edu, 520-621-9663) Adjunct Lecturer/Instructor, Ph.D.-Arizona.

Akrum H. Tamimi is a Professor of Practice of the Department of Agricultural and Biosystems Engineering at the University of Arizona (UA). Dr. Tamimi earned a B.Sc. in Civil Engineering from Roger Williams University, RI; a B.Sc. in Biosystems Engineering from UA; a Master in Soil Mechanics and Foundations Engineering from Tufts University, MA; a PhD in Agricultural and Biosystems Engineering from UA. Dr. Tamimi traveled, worked, taught and conducted research in many countries in Africa, the Middle East, Europe and North America. Dr. Tamimi has solid background in engineering, microbiology, mathematics, statistical methods and data analysis, modeling, quantitative microbial risk assessment and programming, including developed skills for number “crunching” to discover trends in data, numerical analysis, problem solving, programming and developing algorithms to solve different scientific research and engineering problems. Dr. Tamimi is specialized in the development and evaluation of technologies to efficiently separate organic solids from water, disinfect and beneficially reuse organic residuals such as wastewater and industrial liquid sludge, animal manure and the organic portion of municipal solids waste. Dr. Tamimi has a registered patent in the area of microbes’ disinfection of organic residuals and has three pending patents. Dr. Tamimi is a registered professional Engineer in the Middle East and Africa. Dr. Tamimi has published over 25 peer-reviewed papers and over 54 technical reports. Dr.
Tamimi currently serves on the Editorial Boards for three journals, has served on review panels for governmental, non-profit and for-profit organizations and companies.

**Scot Waterman** *(scotw@email.arizona.edu or 621-2355)* Lecturer, DVM, Illinois.

Dr. Waterman obtained his Doctor of Veterinary Medicine from the University of Illinois in 1990. After graduation, he practiced small animal medicine at Animal Emergency of Lake County in Illinois and Pets are People Too in Atlanta before starting his own practice, North Hills Animal Hospital in 1993 in an Atlanta suburb. In 1998, he decided to redirect his career by selling his practice and attending the Race Track Industry Program at the University of Arizona. After graduating with honors, he became the Executive Director of the National Thoroughbred Racing Association’s Racing Integrity and Drug Testing Task Force and the Racing Medication and Testing Consortium in Lexington, Kentucky. Currently Dr. Waterman lives in Tucson and provides veterinary consulting services to the New Mexico Racing Commission, the Arizona Division of Racing and the Indiana Horse Racing Commission.

**Luise King** *(tluiseking@email.arizona.edu, 520-621-9855)* Assistant Professor of Practice, DVM, Ph.D., Missouri.

Luise is originally from South Africa and was raised on a small dairy farm. Dr. King received her B.S. in Animal Science in 2005 and her Doctor of Veterinary Medicine in 2008 from the University of Missouri. After spending a few months in a mixed animal externship, she returned to academia and completed her PhD in Biomedical Science at the University of Missouri. Her research work investigated the critical role of brainstem neurons in cardiorespiratory physiology.

Dr. King’s is passionate about teaching and has taught veterinary science students at the University of Arizona School of Animal and Comparative Biomedical Sciences for three years and also veterinary technology students at Pima Community College. She also is interested in evidence based medicine, learning and sharing with her students the newest treatment techniques for animal conditions and diseases. She wants to make sure each one of her students excels and accomplishes their ultimate career goal.
Department Facilities

Campus
The School of Animal and Comparative Biomedical Sciences, home to the Animal Sciences Graduate Program, is located in both the Shantz Building and Veterinary Science and Microbiology Building on the main campus of the University of Arizona. Laboratory facilities provide modern equipment to support the research activities of the graduate faculty. Animal research units are located in Tucson at the Campus Agricultural Center and West Campus Agricultural Center. Additionally, research units can be found near Camp Verde, AZ at the V-V Ranch.

Campus Ag Center
The Campus Agricultural Center houses several research and curriculum-enriching facilities. The Agriculture Research Complex is a state-of-the-art facility for conducting large animal physiology and nutrition experiments under complete environmental control. The sophisticated environmental chambers, surgery suites, and associated laboratories make this the most sophisticated environmental research facility in the country. The Food Product and Safety Lab provides a USDA-inspected harvesting plant for research and instruction in meat science, food safety and new product development.

The Livestock Complex, which is a covered livestock arena, is used for equestrian instruction, the equestrian team and livestock judging events. This facility is also available for teaching or use by the Arizona Cooperative Extension Service, 4-H, FFA and outside groups. The Equine Unit, with approximately 30 horses, is used for instruction and research in equine reproduction and management. Intensive research in nutrition, reproduction and physiology of ruminants is conducted in a 48-pen unit located at the west end of the Campus Agricultural Center. A recent addition (December 2012) to the Campus Agricultural Center is the creation of a teaching farm. The teaching farm is designed to provide the livestock needed to properly teach courses that require a “hands-on” field component.

West Campus Agricultural Center
The West Campus Agricultural Center is a ruminant feeding facility equipped for: 1) feed mixing and preparation, 2) feeds and feeding research trial, and 3) animal breeding and genetics studies. The Center is located approximately five miles from the main campus.

V-Bar-V Ranch
The V Bar V Ranch is located in Rimrock, Arizona, approximately 220 miles north of Tucson. The University of Arizona-College of Agriculture and Life Sciences acquired the V Bar V Ranch in January 1995 on a gift/purchase basis from Ben and Betsy Zink. The acquisition was made possible through the use of private funds provided by the college’s supporters and the UA Foundation. Transecting the Mogollon Rim, the 71,000 acre grazing allotment runs about 30 miles east from Camp Verde and varies between four and five miles in width. Forty-four acres is private land, with the remainder held under lease from the U.S. Forest Service.
With elevations ranging from 3,200 to 7,000 feet, the ranch allows the UA College of Agriculture and Life Sciences to expand its experiment station network to include higher elevation ecosystems. In addition to 540 cattle, the ranch is also a habitat for a wide variety of wildlife, ranging from mammals, birds and fish to reptiles and amphibians. Vegetation zones, including high desert chaparral, pinon-juniper woodland, and pine forest, are typical of those on most of the commercial ranches in Central and Northern Arizona.

Because the V Bar V is a fully operating, working ranch, research performed there involves an applied approach to problem-solving, rather than laboratory studies conducted in basic science, faculty, staff, and students are able to utilize and operate the ranch by conduct research in the various disciplines of agriculture including, but not limited to, animal and plant science, veterinary science, renewable natural resources, agricultural economics, soil and water science, and agricultural engineering.
Forms are completed and submitted electronically. GradPath is the Graduate College’s new nearly paperless degree audit process that will make submission and approval of all necessary forms much easier. Students fill-out and submit forms online through UAccess Student. Once a student is logged into UAccess from the main page of their Student Center, the student clicks the drop down menu (it reads other academics in the box) and scrolls down until they find “GradPath Forms”. After the student clicks the link it should bring them to this landing page:

To access GradPath the student must click on the GradPath Forms Link. One can check the status of particular forms at any time. GradPath lets students know what forms next need their attention (See below).
The following forms must be filled out by the Master’s Candidate via GradPath, unless otherwise noted:

1. Evaluation of Transfer Credit (If applicable)
2. Master’s/Specialist Plan of Study
3. Master’s/Specialist Committee Appointment Form--needs to be submitted by every Master’s/Specialist student whether or not that student has a committee.
4. Master’s/Specialist Completion Confirmation Form--Graduate Coordinators submit this form on behalf of the student
5. Exit survey

Forms have some automatic checking built-in that will prevent common errors (e.g., typos in course numbers, illegible faculty names, etc.). There is also some built-in logic to notify Students/Major Advisors/Graduate program coordinators when there is a problem with a form, such as courses outside the time limit. Such messages include links to policy. Then the automated workflow engine will route the electronic forms to everyone who needs to see or approve them. The following diagram is an example of the routing approval path:

![Diagram](image)

The timeline that these need to be submitted by can be found at Graduate College Website by going to Policies and Procedures>Important Deadlines.
Program Administration

The School of Animal and Comparative Biomedical Sciences-Animal and Biomedical Industries (ABI) Program graduate committee and associated subcommittees will be responsible for the administering of all aspects of the graduate program, with the approval of the Director. These responsibilities include:

- Recruitment and Admissions
- Graduate Student Funding
- Procedure and Policy
- Curriculum
- Graduate Teaching Assignments
- Graduate Student Progress

**Recruitment and Admissions**

Solicitation of applicants into the M.S. program in Animal and Biomedical Industries will be done by The School of Animal and Comparative Biomedical Sciences (ACBS) by building on the established reputations of the faculty and existing communication networks, including outreach and the ACBS and UA Grad College web page. The graduate program will also be promoted by judicious use of advertisement, brochures, and posters.

The final selection of students to be admitted into the program will be made by the Animal and Biomedical Graduate Committee, and will be determined from the ranked order of applicants based on their prior academic performance, required course pre-requisites, and standardized test scores.

**Student Admittance Procedures**

All students who meet the following criteria will be admitted to the ABI grad program:

- Completion of a BS degree or higher
- At least
  - a 3.0 cumulative undergraduate gpa
  - A 3.0 gpa on the last 60 units completed
  - A 3.0 gpa on 12 graduate level units
- Submitted GRE Score (no minimum listed)
- Prerequisite course requirements:
  - General Chemistry I
  - General Chemistry II
  - General Biology I
  - General Biology II
  - English Composition I
  - English Composition II
Graduate Student Funding Policy
Graduate funding is available to ABI grad students in the form of scholarship. Scholarships will be awarded on the basis of need and academic merit. The recipients will be selected by the ABI graduate committee. In the ABI program, a program fee equaling $3000 is charged per student. 14% of the total amount of program fees collected from the cohort will be used towards the scholarships. The amount will vary year to year and depend on the total amount of students enrolled in the ABI program.

Graduate Student Progress
The ABI MS degree is a 1-year program and it is the expectation of the ABI Graduate Committee that active students will complete their degree in that timeframe. Therefore, there will be no annual report requirement. Student will be expected to meet UA Graduate College Satisfactory Academic Progress as listed below:

“In addition to maintaining a minimum 3.00 grade-point average, students enrolled in a graduate degree program are required to demonstrate satisfactory academic progress toward degree completion. Students may change major professors with departmental approval, but are required to have a major professor or advisor to maintain satisfactory academic progress. The major professor typically serves as the chair of the student's graduate committee. Failure to meet satisfactory academic progress requirements is grounds for disqualification by the Dean of the Graduate College. Each department has its own criteria for evaluation of a student's academic progress. The Graduate College will apply the appropriate department's criteria if the department requests a student's disqualification for failure to meet satisfactory academic progress guidelines. Departmental policies on satisfactory academic progress are available from departments and should be available online.”

For more on this please visit: https://grad.arizona.edu/policies/academic-policies/satisfactory-academic-progress

Student Role In Departmental Governance
The Graduate Program is administered by an Executive Committee. The Executive Committee is chaired by the ABI Head of Grad Studies, and includes at least 2 other UA faculty members/employees, an ABI graduate student representative, and the ABI Program Coordinator. The graduate student representative is elected by the graduate student body of the ABI Grad Program for a 1 year term.
The student representative serves as an official liaison between the students and faculty of the graduate program. The representative is responsible for organizing graduate student participation in Program endeavors, as well as serving on Program committees in an advisory capacity. Students should seriously consider their choices for the graduate student representative in order to maintain an effective student voice in Program issues.

Student Appeal Policies
A student can appeal any of the requirements. The appeal should be made in writing to the ABI Head of Grad Studies. The appeal will be reviewed by the Executive Committee and may include a collective meeting with the student. A decision to accept the appeal of the specific requirement will

The Graduate Student Handbook
be based on a majority vote by the Executive Committee. Terms and additional requirements may be place on the student as a prerequisite for continuing in the program. Students can appeal the Executive Committee decision with a written request to the Director of The School of Animal and Comparative Biomedical Sciences. The written appeal must include the original appeal to the Executive Committee, the conclusion of the Executive Committee, and the rationale or response to the Executive Committee decision.

**Professional Conduct**
Professional conduct involves both a commitment to follow the letter of the assistantship contract and the requirements outlined in the Handbook.

**Student Responsibility**
Graduate Students are expected to follow the policies and procedures for both the UA Graduate College and for the Animal Science Graduate Program. Policies are updated frequently and it is the student’s responsibility to Comply with current policies. Graduate College Policies can be viewed on-line at http://grad.arizona.edu/new-and-currentstudents and University policies can found at http://catalog.arizona.edu/.
UA Graduate College
http://grad.arizona.edu

Resources for parents, professional development, and health/wellness
http://grad.arizona.edu/new-and-currentstudents

UA General Catalog
http://catalog.arizona.edu

Academic Integrity
http://deanofstudents.arizona.edu/codeofacademicintegrity