



University of California at Davis

Master of Science in

Forensic Science Program

2017 Incoming Student Orientation

Welcome to the UC Davis Forensic Science Graduate Program

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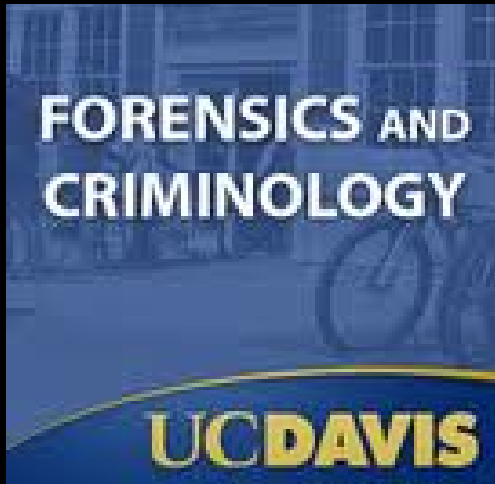
Director

UC Davis MSFS Program

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Outline

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UC Davis MS Forensic Science Program Overview

- Approved by UC Davis as a graduate program in 2002
- To date, 194 students have graduated
- About 82-85% are employed in a crime lab or closely related scientific area
- 92 students currently in the program
 - 22 new students this fall
- Average time to degree 2.5 years

Program Funding

- Self-Supporting Degree Program
 - No monetary support from State of California
 - Bulk of operating funds generated via tuition
 - Funds also obtained from grants, contracts and gifts
- Program funds are used to pay for overhead, staff and instructor salaries, student TA- and reader-ships, supplies and equipment related to lab courses and student research projects.
- Remaining revenue used within the Program

Forensic Science Center

- The Forensic Science Center (FSC) ~4,300 sq. ft.
 - Classroom
 - Conference room
 - Teaching and research laboratories
- No UC Davis parking fees
- A place for you to meet during the day, read/check out books, review the literature.
- FSC has free wireless access
 - **Guestgate** and the Logon is **ucdeguest**

Forensic Science Program Goals:

Get An Education

Research

Publish a Journal Article

Have Fun



Meet New People

Attend Forensic Science Conferences

Graduate

Get Hands-on Experience

Program Contacts:

Program Director

- Provides administrative program support
- Graduate Adviser
- Thesis Adviser
- Instructor

Program Manager and Student Services Advisor

- Curriculum Management
- Research Proposal, Thesis and Degree Coordination

Program Assistant

- Front Desk
- Website update
- Ordering

Program Contacts:

Graduate Advisors

- Source of information and advice
 - Academic advising – coursework
 - Represent UC Davis Graduate Studies
 - Sign key forms Candidacy, PELP etc.
- Help students get started with their research projects
 - May not serve as a member of the thesis committee
- Review your progress annually (at least)
- Offer guidance on job opportunities in forensic science

Program Contacts:

Thesis Advisors (not your Graduate Advisor)

- Serve on your thesis committee
- Three thesis advisors required (including Chair)
 - At least 1 member of the Academic Senate
 - 1 or 2 members of the Academic Federation
 - Adjunct Professors, Lab Directors, Researchers
 - Not more than 1 external advisor (not Chair)
 - Current / retired crime lab practitioners
- One Thesis Chair
 - Helps you develop your research proposal
 - Directs your research project
 - Helps you with your thesis and journal publication

Program Contacts:

Thesis Advisors continued

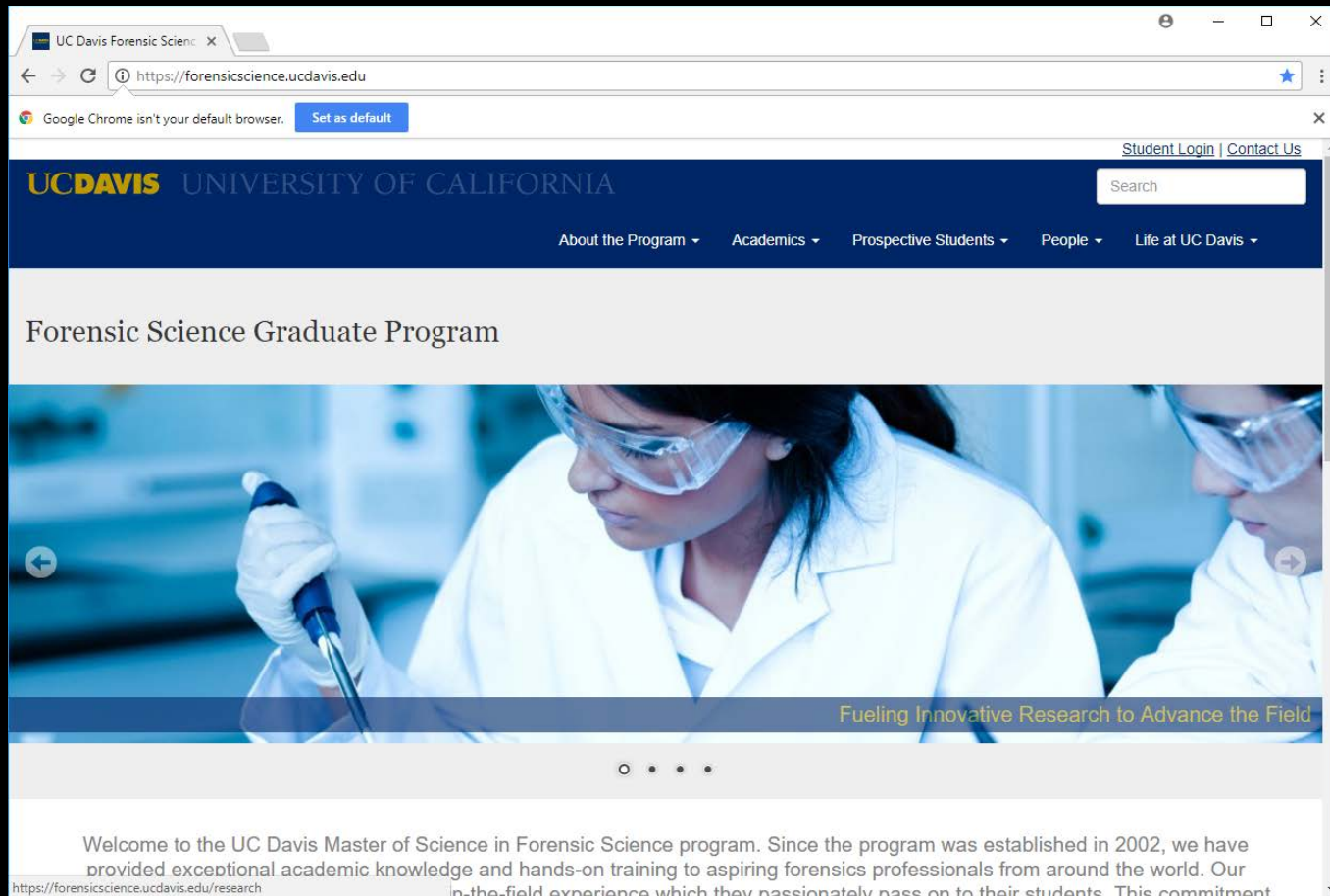
- Two more Committee Members required
- Can be on campus
 - Academic Senate or Academic Federation (must have >1 Academic Senate member)
- Can also be external (crime lab practitioners)
- Serve as “readers” for your thesis
 - Read and approve your research proposal
 - Read and approve your final thesis
 - May help with journal article publication

Student/Staff Website

<http://forensicscience.ucdavis.edu>

Click link for "Student Login"

Use your UCD user name and password to access



Student/Staff Website

- Includes links to:
 - Informational pages
 - Policies and forms
 - List of current research project ideas
 - Electronic newsletters
 - Job postings
 - Staff and faculty contact information
 - Graduate Group members and their research interests

Curriculum Requirements

- Requirements vary according to the track you enroll in:
 - DNA Track
 - Criminalistics Track
 - Dual Track
- 54 total units required to graduate (56 Dual Track)
- Required Core Classes (all tracks) – 12 units
 - FOR200 Fundamental Concepts of Forensic Science
 - FOR210 Personal Identification Methods
 - FOR212 Scientific Evidence and Testimony
 - FOR240 Homicide Crime Scene Investigation

Curriculum Requirements II

- Seminar Classes (all tracks) – 3 units total
 - FOR290 Forensic Science Seminars Fall – 1 unit
 - FOR290 Forensic Science Seminars Winter – 1 unit
 - XXX290 Seminar class of your choice – 1 unit
- OR-
- FOR290C – Attend a forensic science conference
(at least 3 days duration) – 1 unit
 - California Association of Criminalists
 - American Academy of Forensic Science
- Research Units (all tracks) – 18 units
 - FOR299 Research in Forensic Science

Curriculum Requirements III

- Required Criminalistics Track Classes - 9 units
 - FOR205 Microscopy and Microanalytical Methods
 - FOR207 Forensic Spectroscopy
 - FOR220 Analysis of Toxicants
- Criminalistics Laboratory Course – 2 units
 - FOR 221L Forensic Instrument Laboratory
 - May be waived by Graduate Advisor if you have relevant prior lab experience
- Criminalistic Track Electives – 10 units
 - Any of a variety of FOR or non-FOR courses
 - Some undergraduate level courses may fit this requirement (limited)

Curriculum Requirements IV

- Required DNA Track Classes – 12 units
 - FOR278 Molecular DNA Techniques
 - FOR280 Forensic DNA Analysis
 - FOR289 Survey of Forensic Science
 - XXX2XX Graduate level course in Genetics/Bioinformatics
 - FOR276 Population Genetics
 - GGG201D Quantitative and Population Genetics
- DNA Laboratory Course – 3 units
 - FOR 281 Principles and Practices of DNA typing
 - May be waived by Graduate Advisor if you have relevant prior lab experience
- DNA Track Electives – 6 units

Curriculum Requirements V

- Required Dual Track Classes - 18 units
 - FOR205 Microscopy and Microanalytical Methods
 - FOR207 Forensic Spectroscopy
 - FOR220 Analysis of Toxicants
 - FOR278 Molecular DNA Techniques
 - FOR280 Forensic DNA Analysis
 - XXX2XX Graduate level course in Genetics/Bioinformatics/Statistics
- Dual Track Laboratory Courses – 5 units
 - FOR 221L Forensic Instrument Laboratory
 - FOR 281 Principles and Practices of DNA typing
 - May be waived by Graduate Advisor if you have relevant prior lab experience

Curriculum Requirements VI

- Dual Track Electives – not required
- Coursework Restrictions (Criminalistics and DNA)
 - No more than 12 units of upper division undergraduate coursework will count towards the M.S.F.S. degree
 - Non-FORXXX UCD Extension courses do not count towards the M.S.F.S. degree
 - California Criminalistics Institute (CCI) courses do not count towards the M.S.F.S. degree

Quantitative Analysis Issue

For Those Hoping to Work in a California Crime Lab

- The state of California required all forensic scientists to have completed 5 semester units of quantitative analysis until recently. Still important to meet this requirement as it may be years before California crime labs take this off their hiring policy.
 - ETX102B satisfies this requirement
 - If you took quantitative analysis as an undergraduate, that will suffice as well
 - UCD Chem 2 series (cover letter available)
 - Junior colleges may also offer this course

Name: _____ Admit Quarter/Year: _____ E-mail: _____@ucdavis.edu Graduate Adviser: _____

SAMPLE Two Year Schedule

	Fall Quarter	Winter Quarter	Spring Quarter
Year One	FOR200 3	FOR210 3	FOR240 3
	FOR207 3	FOR212 3	Elective 4
	FOR220 3	Elective 3	FOR299 2
	FOR290 1		
	Total: 10	Total: 9	Total: 9
Year Two	FOR221L ¹ 2	Elective 3	FOR205 3
	XXX290 1	FOR299 6	FOR299 6
	FOR299 5		
	Total: 8	Total: 9	Total: 9

This is only one of several possible course combinations.

¹Required course if student has no prior relevant lab experience.
Course may be waived only with the approval from your graduate adviser.

Degree Progress Checklist

<input type="checkbox"/> Research Proposal	<input type="checkbox"/> 12 Core Units
<input type="checkbox"/> Thesis Committee	<input type="checkbox"/> 9 Criminalistics Track Units
<input type="checkbox"/> Advance to Candidacy	<input type="checkbox"/> 2 Lab Units ¹
<input type="checkbox"/> Submit Thesis to Graduate Studies	<input type="checkbox"/> 3 Seminar Units
<input type="checkbox"/> Thesis Presentation	<input type="checkbox"/> 10 Elective Units
<input type="checkbox"/> Commencement	<input type="checkbox"/> 18 Research Units
	<input type="checkbox"/> Other: _____

Individual Schedule

Complete the course schedule beginning with your first quarter. Include grades for completed courses. Circle the applicable quarter and write in the year: F-Fall, W-Winter, S-Spring, SS-Summer Session (optional).

F	W	S	SS	20__	F	W	S	SS	20__	F	W	S	SS	20__	F	W	S	SS	20__	
Course	Units	Grade	Course	Units	Grade	Course	Units	Grade	Course	Units	Grade	Course	Units	Grade	Course	Units	Grade	Course	Units	Grade
e.g., FOR200	3	A																		
Total Units:					Total Units:					Total Units:					Total Units:					
F	W	S	SS	20__	F	W	S	SS	20__	F	W	S	SS	20__	F	W	S	SS	20__	
Course	Units	Grade	Course	Units	Grade	Course	Units	Grade	Course	Units	Grade	Course	Units	Grade	Course	Units	Grade	Course	Units	Grade
Total Units:					Total Units:					Total Units:					Total Units:					

Adviser's Recommendations: _____

Adviser Signature: _____ Date: _____ Follow Up: Yes / No Follow Up By: _____

Core Courses | 12 units

- ☐ FOR200 Fundamentals Concepts of Forensic Science (3) *F*
- ☐ FOR210 Personal Identification and Analytical Methods (3) *W*
- ☐ FOR212 Scientific Evidence and Courtroom Testimony (3) *W*
- ☐ FOR240 Homicide Crime Scene Investigation (3) *F, S*

Track Courses - Criminalistics | 9 units

- ☐ FOR205 Microscopy and Microanalytical Methods (3) *S- alt. yrs*
- ☐ FOR207 Forensic Spectroscopy (3) *F - alt. yrs*
- ☐ FOR220 Analysis of Toxicants (3) *F - alt. yrs*

Laboratory Course | 2 units

- ☐ FOR221L Forensic Instrumental Laboratory¹ (2) *F, S*

Seminars | 3 units

- ☐ FOR290 Seminar (1) *F*
- ☐ FOR290 Seminar (1) *W*
- ☐ XXX290 Seminar (any graduate seminar) or FOR290C² (1) *Vary*

Research | 18 units

- ☐ FOR299 Research in Forensic Science (1-18) *All*

Electives | 10 Units

Additional electives are not required for the dual track. The 6 unit requirement for electives is fulfilled by the DNA and Criminalistics track courses. Students may choose to take additional electives at

- ☐ FOR215 Forensic Arson and Fire Investigation (3) *Vary*
- ☐ FOR218 Forensic Case Reports (3) *F, S*
- ☐ FOR263 Forensic Computer Investigation (3) *Vary*

- ☐ FOR268 Forensic Statistics (3) *Vary*
- ☐ FOR278 Molecular Techniques (3) *W*
- ☐ FOR280 Forensic DNA Analysis (3) *F*
- ☐ FOR283 Forensic Biology (3) *W - alt. yrs*
- ☐ FOR289 Survey of Forensic Science (3) *W*
- ☐ FOR293 Research Methods in Forensic Science (3) *W*
- ☐ FOR298 Forensic Alcohol (3) *Vary*
- ☐ FOR298 Food Forensics (3) *Vary*
- ☐ FOR298 Population Genetics (3) *Vary*
- ☐ FOR298 Forensic Toxicology (3) *Vary*

Non-FOR Electives:

- ☐ CHE205 Symmetry, Spectroscopy, and Structure (3)
- ☐ CHE217 X-Ray Structure Determination (3)
- ☐ CHE219 Organic Spectra (4)
- ☐ CHE240 Advanced Analytical Chemistry (3)
- ☐ CHE241C Mass Spectrometry (3)
- ☐ EME298 Impact Biomechanics and Design of Crash Protection Systems (4)
- ☐ EMS182 Failure Analysis (4)
- ☐ EMS230 Fundamentals of Electron Microscopy (3)
- ☐ ENT159 Forensic Entomology (3)
- ☐ ENX102B Quantitative Analysis of Environmental Toxicants (5)
- ☐ FPS161 Structure and Properties of Fibers (3)
- ☐ FPS161L Textile Chemical Analysis Lab (1)
- ☐ MAE161 Combustion and the Environment (4)
- ☐ MAE217 Combustion (4)

¹ Required laboratory course only if student has no prior relevant laboratory experience. Course may be waived only with approval from your graduate adviser.

² Attendance at external conference (such as AAFS or CAC, listed as FOR290C in W and S quarters) and written summary can fulfill this requirement in lieu of an additional seminar course.

CANVAS: Course Management System

- This is a key website that you will use for your UCD courses
- You will need your UC Davis logon and password to access it
- The website can be found online at:
<https://canvas.ucdavis.edu>

**UC Davis Faculty, Students, & Staff**

Use your standard UC Davis computing account LoginID and passphrase.

[UC Davis Log In](#)**Guests**

Use your email address and the password you chose when setting up your account.

[Guest Log In](#)

GPA and Grade Requirements

- B (3.0) average mandated.
- Any grade less than a C results in Academic Probation.
- If your cumulative GPA is below a 3.0/B you will need a signed release from your Graduate Advisor to continue in the MSFS Program.
- You have 3 quarters to make up the GPA deficit.
- A C- or lesser grade in a Forensic core course will require you to repeat it in order to graduate. (will have to pay course fee again)

Advancement to Candidacy

- In order to graduate you must also file an application for Candidacy for the Degree of Master of Science in Forensic Science:
 - After you complete one-half of the required coursework units
 - At least 1 quarter before you finish all your degree requirements and plan to graduate
 - This typically adds up to at least 5 months before you plan to graduate (Fall quarter of your second year)
 - Candidacy form can be found online at:
<https://www.gradstudies.ucdavis.edu/forms/>

Research and Thesis

- Students must conduct a laboratory research project and write a thesis in order to graduate.
- What is a thesis?
 - A document (dissertation) describing all aspects of your research project including:
 - Your hypotheses
 - A review of prior studies on the subject
 - The methods used to test your hypothesis
 - Your results
 - A discussion of your findings and final conclusions
- Your thesis project should be structured so that it can result in a journal publication.

Research and Thesis II

- Steps involved in generating a thesis:
 - Choose an area of research that interests you
 - Meet with several professors who have research interests in this area
 - Find a thesis chair and 2 further thesis committee members to work with
 - Research the relevant published literature on your area of research
 - Write a thesis project proposal in collaboration with your thesis chair
 - Obtain written approval of your research proposal from all 3 thesis committee members

Research and Thesis III

- Thesis development continued:
 - Conduct the research (a few months)
 - Analyze and interpret the results of your research project
 - Write your thesis
 - Obtain approval (title page sign-off) from all 3 of your thesis committee members
 - Present your work at one of our thesis presentation events (15-20 minutes)
 - Submit your thesis to UC Davis Graduate Studies for final approval

Research and Thesis IV

- Off-campus Research Project Opportunities
 - Current employer may be able to provide research opportunities for your thesis
 - Crime laboratory – public or private
 - Government laboratory
 - Private industry laboratory
 - Internship at a public or private laboratory
 - Crime Laboratory
- The person supervising your research in an off-campus lab can serve as an external thesis committee member (not thesis chair)

Research and Thesis V

- In collaboration with your thesis chair and/or those who worked closely with you on your project you should also consider:
 - Presenting your data at a Forensic Science Conference
 - Submit an abstract to CAC, AAFS etc. for their consideration
 - If accepted for poster or oral presentation, the Program can help defray your attendance costs
 - Writing an article for submission to a forensic science journal (or other relevant journal) for publication

Thesis Submission

- You must be registered or on filing fee status during the quarter in which you submit your thesis to Graduate Studies.
- Your cumulative GPA must be 3.0 in order to graduate from the MSFS Program.
- You can find more information on preparing your thesis and a schedule of critical dates for filing it in its final form at the Graduate Studies website:

<https://grad.ucdavis.edu/current-students/academic-services-information/filing-thesis-or-dissertation>

Preparing & Filing Your Thesis or Dissertation

Home > Resources > Graduate Student Resources > Academic Information and Services

Resources

> Graduate Student Resources

Academic Information and Services

Dates and Deadlines

Registration and Enrollment

Degree Candidacy

Degree Requirements

Filing a Thesis or Dissertation

Student Employment

Problems and Dispute Resolution

Mental Health and Counseling

Life Balance and Wellness

Policies

Forms

> Postdoctoral Scholar Resources

> Faculty & Staff Resources

> Diversity

> Mentoring

> Forms

Filing your dissertation or thesis is the last step in the process leading to the awarding of your degree. The final copy of your thesis or dissertation, which is ultimately deposited in the University Library, becomes a permanent and official record.

For information and assistance in the preparation of your thesis or dissertation, please contact the Graduate Studies Student Affairs Officer responsible for your program. You must make an appointment with the Student Affairs Officer in order to file your thesis or dissertation. To find your assigned Student Affairs Officer in Graduate Studies, go to the [Graduate Programs page](#), click on your program, and then click on "People." You will find their name and contact information there.

You are responsible for observing the [filing dates](#) and for preparing the thesis in the proper format. As part of the electronic filing process you will complete the PQIL Masters Thesis Agreement (Master's students) or the UMI Doctoral Dissertation Agreement (Ph.D. students) on which you indicate your willingness to have the University supply copies of your thesis to interested persons immediately, or the dissertation submitted to ProQuest.

You must have committee approval (title page signed off by committee) before submitting your thesis/dissertation electronically.

Candidate Degree Completion Lists

- [Master's](#)
- [Doctoral](#)

Samples

- [Sample Title Page](#)
- [Sample Thesis/Dissertation Abstract](#)

Filing Deadlines

Check the [calendar](#) for deadlines for submission of the master's thesis or the doctoral dissertation with the committees in charge and with Graduate Studies. Deadlines are also announced each year in the Class Schedule and Registration Guide and the General Catalog. The deadline for filing with your committee is a recommended deadline to allow time for making revisions. The deadline for submission to Graduate Studies is firm. You are responsible for observing the filing dates and for preparing the thesis or dissertation in the proper form.

Formatting Instructions

It is your responsibility to ensure that your thesis or dissertation conforms to the following requirements for submission. Please read the requirements carefully.

- > [File format](#)
- > [Title/Signature Page](#)
- > [Abstracts](#)
- > [Style and Format](#)

Thesis Submission II

- In addition to filing your thesis with Grad Studies, you should also provide a copy of your final thesis to:
 - UC Davis MSFS Graduate Program
 - Your thesis committee members



MSFS Student Job Opportunities

- Academic positions (limited to students who receive an "A" or "A-" in the course)
 - TA positions
 - Homicide Crime Scene Investigation, Principles and Practices of DNA Typing
 - Reader positions
 - Fundamental Concepts of Forensic Science, Personal Identification, Scientific Evidence and Courtroom Testimony, Forensic Case Reports, Population Genetics, Forensic DNA Analysis
- Non-academic Positions
 - Lab Assistants
 - Criminalistics Laboratory, DNA Laboratory

Student Job Opportunities (on-campus)

- Academic support jobs
 - Teaching Assistant positions (TA)
 - Reader (grader)
- Non-academic support jobs
 - Lab Assistant positions
 - Animal Technician (Vet School, Med School)
 - <http://www.hr.ucdavis.edu/>
 - <http://www.ucdmc.ucdavis.edu/hr>

Internship Possibilities

- UC Davis MSFS graduate students have obtained internships at:
 - Sacramento County DA Crime Lab
 - Kern Regional Crime Laboratory
 - California Criminalistics Institute (CCI)
- You must pass a background check
- Keep your eyes open for the opportunity!



Student Membership in Professional Societies

- California Association of Criminalists
 - Affiliate member: www.CACNEWS.org
 - Benefits: Grants, Local Seminars – Free CCI training
 - Cost: \$30 / year
 - Reduced Journal rates
 - CAC sponsors travel related expenses to CAC conferences for UCD students to present research
- American Academy of Forensic Science
 - Student Affiliate member: www.aafs.org
 - Benefits: Annual Meeting - Focused Student Groups; Scholarships
 - Cost: \$25 application fee and \$55 student member
 - Due 10-1-2017
 - Reduced Journal rates

Career Guidance

- We can help you with career planning, job hunting and information on:
 - Job applications
 - Interviews
 - Background checks
- We will send out notifications on new job openings as they become available to us.

Career Guidance II

- Good sources for forensic job listings include the websites for:
 - California Association of Criminalists (CAC)
 - American Academy of Forensic Sciences (AAFS)
 - USAJOBS
 - Federal Bureau of Investigation (FBI)
 - Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF)
 - Armed Forces DNA Identification Laboratory (AFDIL)

Forensic Job Applications

- General advice:
 - Apply to all job listings that appeal to you
 - Do not miss any deadlines
 - Start gathering information you will need for interview and background check now:
 - Transcripts
 - CV
 - Employment history
 - Reference contact information
- Talk to Program Director regarding interview process and questions you may be asked.

The Hiring List

- When you apply to a government job position your application will be screened to see if you qualify for further consideration:
 - A written test, an interview or both
- If you pass the “testing” your name will be placed on a hiring list from which future job candidates will be selected.
 - This list may remain active for a few months to a few years.

The Interview

- Dress professionally.
- Answer all questions as honestly and as accurately as you can.
- Don't be afraid to say "I don't know". Honesty and knowing your own limitations are considered essential qualities for crime lab employees.
- You may not hear anything for quite awhile after the test / interview. Be patient and allow the process to follow its course.

Background Checks

- Can take several weeks to several months to complete
- Can involve:
 - Polygraph
 - Fingerprinting
 - Driving record
 - Paperwork
 - Interviews with family / friends / acquaintances / current and former employers
 - Social media checks

Straight Talk

- No illegal drugs / DUIs
 - Even in the state of California, where marijuana has been legalized, it's use is not tolerated among crime lab employees
- Also of concern to employers:
 - Arrest record
 - Excessive traffic / parking tickets
 - Firearms restrictions
 - Spousal / child abuse
 - Financial responsibility

Straight Talk II

- Employer tolerance of prior drug experience:
 - Depends on the type of drug and how long since you've used it
 - Some labs have absolutely no tolerance for hard drug usage (heroin, cocaine, methamphetamine)
 - Recent marijuana usage (within last 2-3 years) will typically disqualify you
- You must be 100% honest about ANY prior drug / DUI experience during your interview and background check
 - Honesty valued most of all

More Straight Talk

- Many crime labs have strict policies regarding tattoos
- At a minimum, you must be able to keep your tattoo(s) hidden when testifying in court
- Some labs require tattoos to be hidden even outside of court
 - Lab
 - Desk
 - Crime Scenes

Student Resources

- Online resources:
 - Forensic Science website
<https://forensicscience.ucdavis.edu>
 - UCD Grad Studies website
<https://grad.ucdavis.edu>
 - Canvas website <https://login.canvas.ucdavis.edu>
 - Student Information Services website
<https://sisweb.ucdavis.edu>
 - My UC Davis website
<https://myucdavis.ucdavis.edu>

Student Resources II

- Counseling:
 - Talk with your Graduate Advisor, your thesis committee Chair, Victoria, myself and/or the Chair of our Graduate Group
- You can also discuss any complaints you have with Graduate Studies and/or file a formal complaint with the Office of Student Support and Judicial Affairs (SJA)
- Mediation services are available at <http://mediation.ucdavis.edu/>

Student Resources III

- Academic appeals

- Grad Studies

- https://ucdavis.edu/facstaff/policies/disqual_appeal.pdf

- The Office of Graduate Studies has final authority over student disqualifications.

- The Office of Student and Judicial Affairs may also offer mediation services

- https://sja.ucdavis.edu/student_mediation.html

Student Resources IV

- Forensic Science Student Organization
 - Support for students in our program
 - Promote the field of forensic science on campus and off



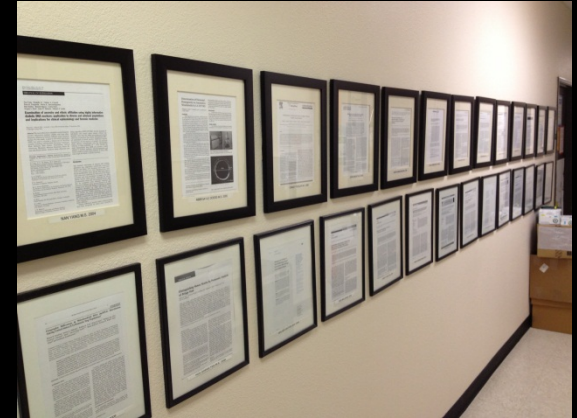
Remember the Goals



Enjoy Your Research



Hands-on Experience



Publish Journal Articles



Graduate with Honor



Don't Get Arrested



Form Lasting Friendships

Summing Up

- You're here to get a great education and a head-start on your career in Forensic Science.
- The faculty, staff and fellow students of the UC Davis Forensic Science Graduate Program are here to help!

