Virginia Commonwealth University

DEPARTMENT OF FORENSIC SCIENCE

FRSC 793:
Directed Research in Forensic Science

Policies & Procedures
Manual
FRSC 793: Directed Research in Forensic Science
Policies & Procedures

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I. Course Description

Semester course; variable laboratory hours. 1-3 credits.

Prerequisite: must have successfully completed a minimum of 18 credit hours in the forensic science master's degree program or have permission of the instructor.

Students must apply to the program director for this directed research experience one semester in advance of enrollment.

A capstone course in which students will conduct independent, original laboratory research in a forensic specialization area of interest, while also gaining practical experience in crime laboratory practices and methods. This laboratory research experience will culminate in a presentation of the project results at a campus seminar and/or professional conference, and a written technical report of publishable quality. A minimum of 300 hours of laboratory research and a minimum of 3 credits are required for graduation.

II. General Information

Note: This manual will serve as the course syllabus for FRSC 793. These policies are subject to updates and changes. Students are obligated to meet all requirements as described in the manual effective for the semester of enrollment.

Completion of a Forensic Science Directed Research is a required for completion of the MS Degree in Forensic Science at Virginia Commonwealth University. Students should begin planning this experience by the end of the first semester of enrollment in the program. Students are encouraged to seek research opportunities either on-campus with faculty members or off-campus in accredited forensic laboratories. The Graduate Director and faculty advisors will assist the students with identification of appropriate laboratories and/or research mentors. However, the student is responsible for making initial contact with appropriate laboratory personnel in order to establish the directed research experience.

As a part of the directed research experience, group meetings will be held each semester with the Graduate Director. The purpose of the meetings will be to assist the students with directed research planning, execution, and finalization of the process. In addition, general expectations will be reviewed. Meetings will be announced well in advance and attendance will be mandatory.

Note: The requirements described in this manual are the minimal requirements needed to satisfactorily complete this class (FRSC 793). Additional requirements & expectations
above & beyond those documented here may be required by the host lab, the research mentor, and/or the faculty advisor.

Note: The procedures and policies described in this document shall be followed closely by all enrolled students. Failing to follow all policies or meet all requirements specified in this document, including deadlines, will result in the lowering of the final grade by one letter grade. Enforcement of this policy will be at the discretion of the Graduate Director after consultation with the research mentor.

Questions regarding these policies should be directed to the Forensic Science Graduate Director and/or the VCU Forensic Science Department administrative office. Current contact information can be found on the Department’s website at http://www.has.vcu.edu/forensics/.

Credits:

- A minimum of three credits of FRSC 793 Directed Research in are required; a maximum of 6 credits will be accepted toward the 42 required credits for graduation.
- Students must achieve an overall GPA of 3.0 (“B”) in his/her graduate study at VCU in order to enroll in FRSC 793.
- Transfer credits from other institutions will not be applied towards the required directed research.
- Students may complete FRSC 793 research credits over multiple semesters by enrolling in 1, 1.5, 2, or 3 credits each semester. An initial plan of action should be outlined on the initial paperwork (Appendix 1 Checklist Form & Appendix 2 Request Form).
  - Students may register for the number of credits that is deemed appropriate for the work involved during the given semester.
  - Students are encouraged to split FRSC 793 research credits over a minimum of 2 semesters.
    - Students who have completed all associated lab work and are left with only the technical report and oral defense to complete must register for a minimum of 1.5 credits during the semester of the oral defense.
    - Students completing off-campus research during the summer session must register for a minimum of 1.5 credits in the summer and 1.5 credits in the fall semester.
  - If additional credits are desired (beyond what was approved on the initial paperwork), a “FRSC 793 Request for Additional Credits” form (Appendix 3) must be submitted and approved.
- Selected FRSC 793 research projects must involve a minimum of 300 hours of supervised laboratory work for 3 credits. This work should encompass an independent research project. If additional credits are requested, another 100 hours of supervised laboratory work is required for each additional credit.
- Students must be registered for FRSC 793 credit during the semester in which they are completing the directed research (including lab work, oral defense, and technical report). Further, unless the student is a paid staff member of the host laboratory, all laboratory work must be completed during the semester of enrollment, i.e. laboratory
work can begin no sooner than the first day of classes of the semester of enrollment and laboratory work must end by the last day of the exam period for the semester of enrollment.

Shadowing Experience:

In addition to the research component, students are encouraged to shadow an examiner in their discipline or section of interest; this is considered to be an essential part of a well-rounded directed research experience. Whenever possible, this shadowing should include observing how typical samples are received and processed through the laboratory, and how data is analyzed and reported. Additionally, students are also encouraged to view testimony of an examiner if/when possible.

Honorariums & Stipends:

An honorarium may be provided to research mentors/s from the Virginia Department of Forensic Science (VA-DFS). Full-time VCU faculty members are not eligible to receive this honorarium.

A stipend to cover laboratory expenses may be supplied to full-time VCU faculty members who sponsor & supervise on-campus directed research.

These expenses are not guaranteed and are subject to availability of departmental funds.

Note:
- VA-DFS mentors and VCU faculty will receive only one honorarium/stipend per project; the honorarium amount is not related to the total number of registered credits.
- No honorariums or stipends will be provided for directed research projects that are completed at other universities, public laboratories, or private companies.

Liability & Background Checks:

Directed research completed at forensic laboratories and/or agencies outside of VCU may require extensive application processes, confidentiality agreements, and/or background checks before students can begin working in the laboratory. Drug use policies & policies regarding personal and criminal history vary by agency and may be applied to incoming students. Background investigations for students can be lengthy, often requiring several months to 1 year to complete. Students are responsible for inquiring about these policies, planning ahead appropriately, and following all agency guidelines regarding these issues.

For the FRSC 793 directed research program, pay is not required and is provided entirely at the discretion of the laboratory. Given this, laboratories may consider liability or other legal issues when accepting either paid or unpaid students. All students who are placed in an off-campus non-VCU laboratory for credit (as a degree program requirement) are covered for acts of negligence and general liability under the Commonwealth of Virginia Risk Management Self-Insured coverage. Further, according to US labor laws, laboratories are
not required to pay students as long as they are enrolled in a *bona fide* trainee program such as a university directed research program. For the entire VCU Department of Forensic Science Legal Statement regarding off-campus student research, see Appendix 4.
III. **Enrollment Procedures**

Students are encouraged to begin the directed research search process by the end of their first semester of enrollment in the MS program. The Graduate Director and faculty advisors will assist the student in obtaining contact information for working professionals in laboratories of interest or regions of interest to the student. Students may select current VCU Forensic Science faculty as research mentors for on-campus research or they may contact professionals in operational forensic laboratories to conduct their research off-campus. For off-campus projects, students are encouraged to seek opportunities in **accredited** forensic laboratories or universities.

Once a directed research opportunity has been established, students should work with prospective mentors to discuss available projects and timelines. The students are encouraged to select the directed research which will best meet their geographical restrictions, timing needs, and the one which will most properly prepare them for a career in their selected specialty area. Projects can include basic or applied research, but all must have a forensic application and must serve to broaden the knowledge base of the specialty area. Once a directed research opportunity has been selected, students can register for credit (during appropriate pre-registration period) and begin the enrollment process outlined below.

After a research mentor and laboratory has been identified, the involved parties should agree on a general topic for the directed research project to be conducted. This should be completed in the semester *prior* to enrollment in FRSC 793.

*Note:* Projects selected must have a valid *original* research component with potential for publication in a peer-reviewed journal. Products of the work should be of publishable quality.

**On-Campus Research:**

Any VCU faculty member can serve as a research mentor for on-campus research; generally, that faculty member will serve as the faculty advisor*.

- Faculty mentors are responsible for supplying laboratory space, supplies, and reagents for the proposed research.
- If the appointment of the faculty mentor is in a unit other than Forensic Science, a Forensic Science faculty member must be selected to serve as the faculty advisor.

**Off-Campus Research:**

For off-campus projects, once a research project is established, students should identify and consult with a VCU Forensic Science Department faculty member who can serve as their faculty advisor.
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- When possible, the faculty member selected as the faculty advisor should have an area of expertise that is related to the project.

Faculty Advisors:

Faculty advisors will be responsible for assuring that students follow all University and Department policies and procedures for completing off-campus research through the course of the project.

- Faculty advisors will assure that the project contains a novel component and has a sound experimental design that follows the scientific method and includes appropriate controls.
  - Upon final review and approval of the proposal, faculty advisors are responsible for assuring that all content requirements have been met and must complete a “FRSC 793 Faculty Advisor Proposal Checklist” form (Appendix 5).
- Faculty advisors will be responsible for assisting the student to develop appropriate timelines for completion of research and shadowing experience, and development of the technical report and seminar. Faculty advisors will also facilitate discussions, as needed, with the laboratory mentor and/or other committee members – this includes planning and leading the final committee meeting.
- Faculty advisors will be responsible for reporting any committee problems or student issues with the Graduate Director, as necessary.

Committee Selection:

After selection of host laboratory, research mentor, and faculty advisor, students should select additional members for their research committee.

- The committee will be chaired by the faculty advisor.
- The committee must include a minimum of three members. The committee must include:
  1. The research mentor from the host laboratory.
  2. A VCU Forensic Science faculty member.
  3. One additional forensic science professional familiar with the discipline of interest.
- At least one of the committee members must be external to the VCU Department of Forensic Science. Full-time faculty, current adjuncts, and affiliate faculty members do not fill this requirement.
- Students may select an optional fourth committee member of their choosing, if desirable.
- Committee members should strive to follow the deadlines given in this document unless alternate deadlines are agreed upon by the full committee, in advance.
- Committee should be approved by the research mentor and faculty advisor prior to submission of the request to the Graduate Director.
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Request Form:

Students should complete “FRSC 793: Directed Research in Forensic Science Request Form” (Appendix 2). Parts A, B, and C should be completed prior to delivery to the Graduate Director. Part A of the Request Form should be completed by the student. The student should also obtain the contact information and titles for all Committee members’ (Part B), as well as signatures (Part C), and deliver it to the Graduate Director for his/her signature (Part D).

The “FRSC 793: Directed Research in Forensic Science Request Form” must be completed and be on file with the Graduate Director one week prior to the last day of classes in the semester preceding desired enrollment.

- All projects and Request Forms must meet the requirements detailed herein and be approved by the Graduate Director.
- Directed Research Request Forms for students wishing to enroll in summer or fall FRSC 793 are due one week prior to the end of classes in the preceding spring semester.
- Directed Research Request Forms for students wishing to enroll in spring FRSC 793 are due one week prior to the end of classes in the preceding fall semester.
- Directed Research requests not submitted by the stated deadlines will be denied and the student will be administratively dropped from the course the following Monday.
- Directed Research projects completed at VA-DFS laboratories must be approved by the VA-DFS Director of Technical Services; in this case, this signature should also be obtained prior to final delivery to the Graduate Director.

Note: Research to be completed at off-campus agencies outside of VCU may require lengthy application processes and/or background checks before students can begin working in the laboratory. Students are responsible for inquiring about these policies, planning accordingly, and following all agency guidelines regarding these issues.

Student Checklist Form

After a directed research opportunity has been established, students should complete the “FRSC 793 Directed Research Student Checklist Form” (Appendix 1). Part A of the Checklist Form should be completed by the student prior to delivery to the Graduate Director. The “FRSC 793: Directed Research Student Checklist Form” must be completed and be on file with the Graduate Director one week prior to the last day of classes in the semester preceding desired enrollment.

The Student Checklist Form will serve as the title page for the student directed research record and will be used to monitor the student’s progress through the research experience, document completion of all requirements, and document the final grade. Upon completion of the research, the form will be reviewed and signed by the Graduate Director indicating completion of the directed research requirements. This form must be completed and approved prior to submission of a final grade for the final semester of enrollment.
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Proposal:

By the end of the third *week of the semester* in which the student is initially enrolled for the FRSC 793 Directed research (fall, summer, or spring), a proposal must be submitted to the Graduate Director for approval.

- Students should work with the laboratory mentor, faculty advisor, and other committee members to obtain their approval of the proposal *prior* to submitting it to the Graduate Director.
- Students who fail to meet this deadline will be administratively dropped from the course the following Monday.

The proposal should be of appropriate length to justify number of credits to be earned and to adequately reflect the depth and nature of the project. The proposal must be in text format with numbered pages, using 12 point font and 1” margins, and free of spelling and grammatical errors. Proposals should detail the work in which the student will be engaged.

Proposals should include each of the following components (section headers should be used for #2-7 below):

1. A **proposal title page** that includes the students name, semester of enrollment, title of the proposed project, date of submission, host laboratory, and signature lines alongside the names & titles of the research mentor, faculty advisor, and other committee member(s).
2. An **introduction**, providing overview and relevant background information. Historical and other original work relevant to the project should be appropriately cited.
3. Specific **goals and objectives** of the proposed work
4. A description of the **experimental design** for the proposed project, including (at minimum): number and origin of samples, number of replicates, general methodology and instrumentation to be used, experiment design and experimental measures to be used, and data analysis approach. **Note:** This section should be in paragraph formatted text. Bulleted lists are not appropriate and will not be accepted.
5. A short paragraph describing the **impact** of this work. This should include the significance of the research and/or how your work could impact or advance the field as well as the laboratory hosting the directed research.
6. A week-by-week **time table** for the conduct and completion of the work. This time table can be in bulleted or table format and should encompass a minimum of 15 weeks for a fall or spring semesters or 12 weeks for a summer session. The time table should reflect the proposed plan of action submitted/approved in the request form.
7. Appropriate **references** should be used throughout the proposal and all citations should be indexed at the end of the proposal.
Proposal submission:

- Committee members should review the proposal and sign the proposal (indicating they have received and reviewed) prior to submission to the Graduate Director. Signature lines should be on the title page and should also include the date and printed name of the individual signing.
  - Upon completion of this final review, the faculty member must complete the “FRSC 793 Faculty Advisor Proposal Checklist” form (Appendix 5).
- Faculty advisors must thoroughly review the proposal to assure that the format and contents meet all requirements outlined above, including the details listed above in components 1-7.
- Students are responsible for submitted the signed hardcopy of the proposal, the “FRSC 793 Faculty Advisor Proposal Checklist” form (Appendix 5), and the “VCU Degree Candidacy” form (Appendix 6) should be delivered to the Graduate Director for final approval.
  - Proposals not meeting the stated minimum requirements will be returned to the student for revisions which must be submitted within one week from notification; Research project proposals will not be formally approved until all requirements are met.
  - Students who do not meet the proposal requirements within the given deadline will be retroactively dropped from the course.
  - The VCU Degree Candidacy form (Appendix 6) is required by the Graduate school. All students who have moved beyond the proposal stage of the final research project must submit this form to the Graduate School to be eligible for graduation. Once this form has been submitted, the student becomes a “Candidate” for the MS degree in Forensic Science.
    - For this form, the student should complete the top portion (student information and signature/date), as well as the “Major Advisor and Advisory Committee Members” section (print or type the faculty advisor for “Major Advisor” and print all other committee members).
    - The remainder of the form will be completed by the Graduate Director and forwarded to the Dean’s offices upon final approval of the proposal.
IV. DIRECTED RESEARCH REQUIREMENTS

The following items will be required of each student to successfully complete the FRSC 793 Directed Research in Forensic Science.

**Note:** Some off-campus host laboratory agencies and private companies require a lengthy review and formal approval of presentations and reports that are based on data acquired at that agency or laboratory. In those agencies/companies, this is generally required prior to that data being discussed or presented. Students should inquire about and carefully follow all agency/company guidelines regarding these issues.

**Committee Meeting**

Students are required to meet (as a group) with their committee members at least once during the period of enrollment.

- The purpose of this meeting will be to update the committee on progress of proposed project, ask questions, seek advice, address concerns, and provide a timeline for completion of project, technical report, and oral defense.
- At this meeting (or before), the committee members must agree upon the format and content of the shadowing experience that shall be required of the student.
- This committee meeting should be held at or around the halfway point of the proposed laboratory work.
- Planning, organization, and conduct of this meeting shall be the burden of the student.
- Individual meetings with committee members are encouraged but will not suffice for this required group, committee meeting. Video- and/or teleconferencing may be used when face-to-face meetings are not possible.
- This meeting should be documented on the “FRSC 793 Committee Meeting” form (Appendix 7). This form should be signed only by the faculty advisor.
  - Student should complete Parts A & B only and submit to Faculty Advisor for approval. The form should be submitted to the Graduate Director for inclusion with the students FRSC 793 Directed Research file.

**Laboratory Performance Evaluation**

At the conclusion of any semester of enrollment that includes laboratory work, the in-lab research mentor must complete a “FRSC 793 Directed Research Laboratory Performance Evaluation” form.

- If laboratory work is divided over multiple semesters, a separate laboratory performance evaluation form must be submitted for each.
- It is the responsibility of the student to assure that the in-lab research mentors have this form and are aware of all deadlines.
- Evaluation forms can be obtained from the FRSC 570 Blackboard site or from the Department of Forensic Science administrative offices.
• Laboratory performance evaluations must be submitted directly to the faculty advisor. Faculty advisors should keep a photocopy for their records and forward the original performance evaluation to the Graduate Director by no later than the last day of classes for the semester of enrollment.

**Written Technical Report**

The Directed Research project will culminate in a final, written technical report. Students will be strongly encouraged to publish the results of their research.

Unless otherwise agreed upon by the committee, a *complete, near final draft* of the written report must be submitted to all committee members *no later* than four calendar weeks prior to the scheduled student oral defense.

• During this four week period, the student is required to work with the committee members to make recommended changes/edits to the paper.

• The format and contents of the written report should follow the style of a journal manuscript. For additional guidance, consult the “FRSC 793: Directed Research Report Guidelines” (which can be obtained from the Graduate Director) and/or a forensic science journal from your discipline. The committee should be informed of which journal format is being followed.

The *final report* (with edits completed) must be submitted to the committee no later than 48 hours prior to seminar date. The final report submitted *at that time* will be used to assess a final grade for this portion of the students directed research experience.

• Students should also distribute the “FRSC 793 Written Technical Report Evaluation Form” at this time along with the final report to each committee member.

• Evaluation forms can be obtained from the FRSC 570 Blackboard site or from the Department of Forensic Science administrative offices.

• Completed evaluations can be submitted directly to the faculty advisor at or before the oral defense. Faculty advisors should compile all evaluation forms and submit to the Graduate Director no later than the last day of classes in the final semester of enrollment.

• Final signatures may also be obtained at this time (see Cover Page requirements below).

• Students should assure that a final copy of the signed written report be submitted to the Graduate Director no later than the last day of classes in the final semester of enrollment. This should be provided *both* in hardcopy and electronic copy (PDF files only).

The report should be of appropriate length to justify number of credits earned and to adequately reflect the depth and nature of the project. **Note:** Assessment of the final report will be based on the quality of its contents and not its length. The report should be in text format with numbered pages, double-spaced (except where noted below), using 12 point font and 1” margins, free of spelling and grammatical errors, and should detail the work performed, resulting data, and relevant conclusions.
At minimum, the written technical report should include each of the following components (section headers should be used for #4-11 below):

1. A **cover page** that includes the student name, title of the proposed project, and the names/titles/signatures of the research mentor, faculty advisor, and other committee members. Signature lines should be on this cover page and should also include the date and printed name of the individual signing.

2. A **title page** that includes only the student name, semester(s) of enrollment, title of the proposed project, date of submission, host laboratory, and name of the research mentor.

3. An **abstract** not exceeding 400 words. Abstracts should be single-spaced and submitted on a separate page, just after the title page. Proper abstracts include a summary of the entire paper, including all of its components.

4. An **introduction** providing overview and relevant background information. Historical and other original work relevant to the project should be appropriately cited.

5. A **research materials & methods** section describing in detail the procedures and techniques used, including: number and origin of samples, number of replicates, exact methodology and instrumentation used for each analytical procedure, experimental measures recorded, procedures for data/statistical analysis, and study design. **Note:** This section should be in paragraph formatted text. Bulleted lists are not appropriate and will not be accepted.

6. A **research results & discussion** section detailing the results of the work. This should include reference to data that is displayed in the form of figures, charts, and tables. Results sections should describe overall results and/or trends observed with discussion, where appropriate. Detail on individual sample data collected should generally be avoided. **Note:** Data that includes quantitative measures should be accompanied by appropriate statistical analyses.

7. A **conclusion** section detailing the conclusions of the research, how the work will impact the field, and future directions of the research.

8. **References** (literature cited). Appropriate references should be used throughout the proposal and all citations should be indexed at the end of the proposal. The majority of references for a scientific technical report should be primary references (ie. Citations should cite journal articles that contain original work). Websites, manuals, and text book references are acceptable, but their use should be limited and should not supplant a primary reference.

9. **Acknowledgements** recognizing those individuals who participated in the work, helped guide the student, or those who otherwise impacted the student during the course of the project.

10. Critical data should be displayed **in figures, charts, or tables.** Each should be displayed on a separate page and attached **at the end** sequentially (in the order of reference) at the end of the paper. Figures and charts should include figure legends.
Oral Defense

In addition to the final written report, each student must present their research findings at a campus seminar. This seminar will be in the style of a traditional “defense” and will include an open Q&A session as well as a closed Q&A session with the committee, followed by a final assessment by the committee.

General requirements for the oral defense will include:

- The seminar presentation should be a minimum of 45 minutes in length. A minimum of an additional 10-15 minutes should be allowed for the open question period.
  - Students are encouraged to review and practice their presentation with their research mentor, faculty advisor, and/or peers prior to the date of the seminar.
  - Students are encouraged to present their research at a professional meeting whenever possible. However, committee evaluations must be based on the campus seminar/oral defense.
- This seminar may be completed in the FRSC 570 Forensic Science Seminar Series depending upon scheduling and availability. If no FRSC 570 slots are available, students are to make arrangements for a seminar through the Departmental administrative assistant, the FRSC 570 Instructor and/or their faculty advisor.
  - All students registered for FRSC 793 will be contacted by the FRSC 570 Instructor to schedule seminars. Students planning to complete their oral defense in the upcoming semester should respond promptly this request and subsequent requests for information. Delays in this response may result in the failure to secure a date in the Department’s seminar series or removal from the schedule.
  - The Forensic Science Department runs the seminar series during only fall and spring semesters. Thus, oral defenses should not be planned for summer sessions. Exceptions to this will be rare and only granted upon approval by the Graduate Director.
- All seminars should be open to the public and university community. Announcements of all student seminars should be broadly distributed to all Forensic Science faculty, graduate students, staff, VA-DFS staff, and to external forensic science professionals in the local or regional community.
- All committee members must be present for evaluation of the seminar or available via videoconferencing. If neither scenario is possible, the seminar may be recorded for viewing/evaluation of the seminar at a later date.
- Students should distribute the “FRSC 793 Oral Defense Evaluation” form as well as a hardcopy of the seminar slides to all committee members at the beginning of the seminar.
  - Evaluation forms can be obtained from the FRSC 570 Blackboard site or from the Department of Forensic Science administrative offices.
  - Completed evaluations can be submitted directly to the faculty advisor at the conclusion of the oral defense. Faculty advisors should compile all
evaluation forms and submit to the Graduate Director no later than the last day of classes in the final semester of enrollment.

- Students should assure that a final copy of the seminar slides (printed 6/page) be submitted to the Graduate Director no later than the last day of classes in the final semester of enrollment. This should be provided both in hardcopy and electronic copy (PDF files only).

Final Committee Meeting

A final research committee meeting will be required for completion of the FRSC 793 directed research experience. Each committee will be strongly encouraged to meet immediately following the student’s seminar to complete the requirements of the oral defense (see below). Alternatively, this meeting can be scheduled for another date soon after the seminar. Individual meetings with committee members will not suffice for this required final group committee meeting. If a face-to-face meeting is not possible, the meeting can be facilitated using videoconferencing and/or phone conferencing. This meeting should be led by the faculty advisor.

This meeting should be documented on the “FRSC 793 Final Committee Meeting & Grade” form (Appendix 8). This form should be signed only by the faculty advisor.

- Student should complete Parts A & B only and submit to Faculty Advisor for approval.
- The form should be submitted to the Graduate Director for inclusion with the students FRSC 793 Directed Research file. Form can be submitted along with evaluations and should be submitted to the Graduate Director no later than the last day of classes in the final semester of enrollment.

The following tasks should be addressed during the final committee meeting:

- Private question & answer period. Any additional questions that were not addressed at the seminar can be presented directly to the student. This can include both detailed questions about the project as well theoretical questions covering a broader range of related topics within the discipline.
- Closed-door discussion of student’s overall performance. During this portion of the meeting, the student should be asked to leave the meeting. At this time, the committee should discuss any information pertinent to the evaluation of the student including their overall laboratory performance, writing skills, and/or presentation skills. At this time, committee members should work to finalize the oral defense evaluation forms. Report and oral defense forms can be immediately submitted to the faculty advisor. The committee may choose to discuss the final grade at this time.
- Review of evaluations with student. Led by the mentor, committee members should discuss candidly with the student both positive and negative feedback regarding their performance through the course of the directed research experience.
- Development of timetable (if necessary). If all report and oral defense evaluations are not completed by this meeting, the committee members should agree upon date by which those forms will be due to the faculty advisor. All
forms will be needed for review by the faculty advisor before a final grade can be documented.

All policies and deadlines specified herein are subject to enforcement according to the policy dictated in the “Note” found in the General Information section of this document (page 3). Graduate research mentors and faculty advisors will be encouraged to report any student discrepancies to the Graduate Director.
V. FINALIZATION OF DIRECTED RESEARCH

Documents

Laboratory performance evaluation forms must be completed by the research mentor (only) near the conclusion of each semester of enrollment that includes laboratory work. A copy of this evaluation form must be submitted to Graduate Director no later than the last day of classes during each semester of enrollment.

Additionally, the following items must be submitted to the Graduate Director by the last day of classes in the final semester of enrollment:

- Hardcopy of mid-semester committee meeting documentation (Appendix 7)
- Hardcopy and electronic copy (PDF files only) of the final technical report (with signatures)
- Hardcopy and electronic copy (PDF files only) of the oral defense presentation, printed 6 slides/page
- Hardcopies of all technical report & oral defense evaluation forms (minimum 7; one from each committee member)
- Hardcopy of the final committee meeting and grade documentation (Appendix 8)

Although the faculty advisors are tasked with compiling and reviewing all documents listed above, it is the responsibility of the student to meet the stated deadlines, distribute appropriate materials to the committee members, obtain appropriate signatures, and to assure that all materials have been received by the Graduate Director by the stated deadlines.

Grading

The Graduate Director will confer all final grades for FRSC 793 Directed Research in Forensic Science credits. The Graduate Director will determine a final grade based on: the grade recommended by the in-lab research mentor (for semesters that include laboratory work), the grade recommended by the faculty advisor, and an independent review of the evaluations and students internal FRSC 793 Directed Research file.

Grades (A/B/C/D/F) will be weighted as follows:

- If the enrolled semester includes only laboratory work, the grade for that semester will be determined by an evaluation of the laboratory performance. Students must be enrolled for 1-3 credits.
- If the enrolled semester includes only completion of the technical written report and the oral defense, the grade for that semester will be determined by evaluations of the written technical report and oral defense (equal consideration). Students must be enrolled for only 1.5 credits.
- If the enrolled semester includes both laboratory work and completion of the technical written report and oral defense, the grade for that semester will be determined by an evaluation of the laboratory performance and by evaluations of the report and oral defense. Students should be registered for more than 1.5 credits;
evaluations will be weighted to assure that the report and oral defense evaluations constitute the grade for 1.5 credits of the total registered credits.

After all final documents are submitted, the Graduate Director will review the entire student FRSC 793 Directed Research file, including a careful review of the evaluation forms and faculty advisor grade recommendations. Materials that do not meet the minimum requirements outlined in this manual will be returned to the student for revisions. When all documents are received and determined to meet all associated requirements, a final grade for the last semester of enrollment will be issued.

As described in the policy stated on page 3, the Graduate Director retains the right to lower the final grade assigned by the research mentor and/or faculty advisor for students who do not follow the policies detailed in this document.
VI. APPENDICES
APPENDIX 1
FRSC 793: Directed Research in Forensic Science
Checklist Form

This form must be completed and delivered to the Forensic Science Graduate Director 1 weeks prior to the last day of classes in the semester preceding desired enrollment. This form will serve as the title page for the student research record and will be used to monitor the student’s progress through the research experience, document completion of all requirements, and document the final grade. Upon completion of the research, the form will be reviewed and signed by the Graduate Director indicating completion of the required directed research experience. This form must be completed and approved prior to submission of a final grade.

PART A: Research Information

Student name ____________________________________________ V # __________________________________________________________

Semester(s) & Year(s) of FRSC 793 Enrollment: ________________________________________________________________

Proposed topic for research project: ____________________________________________________________

Host Laboratory & Location: ____________________________________________________________________________

City_______________________________________ State  __________________

Research Mentor Name & Title: ________________________________________________________________

Faculty Advisor Name & Title: ________________________________________________________________

PART B: Directed Research Requirements

Check each box as the appropriate documentation is received and approved. Reference FRSC 793: Directed Research in Forensic Science Policies & Procedures to determine if documentation presented is appropriate.

<table>
<thead>
<tr>
<th>Item</th>
<th>Received &amp; Approved?</th>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research laboratory &amp; project identified</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Request Form &amp; Committee selected</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposal with signatures &amp; Faculty Checklist Form</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree Candidacy Form</td>
<td>□</td>
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<td></td>
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<tr>
<td>Mid-project committee meeting</td>
<td>□</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final written technical report</td>
<td>□</td>
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</tr>
<tr>
<td>Oral defense presentation</td>
<td>□</td>
<td></td>
<td></td>
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<tr>
<td>Evaluation Forms:</td>
<td>Laboratory Performance</td>
<td>□</td>
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<tr>
<td></td>
<td>Written Report</td>
<td>□</td>
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<tr>
<td></td>
<td>Oral Defense</td>
<td>□</td>
<td></td>
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<tr>
<td>Final Committee Meeting &amp; Grade Form</td>
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<td></td>
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<tr>
<td>Final grades submitted:</td>
<td>□</td>
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</table>

PART C: Approval Signatures

By signing, I certify that the above named student has successfully completed the FRSC 793: Directed Research program.

__________________________________________  ____________________________  ____________
Signature                              Print Name                                Date

VCU Forensic Science, Graduate Director or designee
APPENDIX 2
FRSC 793: Directed Research in Forensic Science
Request Form

This form must be completed and delivered to the Forensic Science Graduate Director one week prior to the last day of classes in the semester preceding desired enrollment. Research committees must have at least three members and include the mentor, a VCU Forensic Science Faculty member (faculty advisor), and an additional Forensic Science professional. Including a fourth committee member (faculty or practitioner) is optional. Committee members must be approved by the research mentor & faculty advisor. Directed research to be completed at VA-DFS must be approved by the DFS Director of Technical Services.

PART A: Student Information

<table>
<thead>
<tr>
<th>Student name</th>
<th>V #</th>
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<table>
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<tr>
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<table>
<thead>
<tr>
<th>City</th>
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<th>Zip Code</th>
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Email        Phone

Proposed topic for research project:

<table>
<thead>
<tr>
<th>Semester(s) of Enrollment (Summer, Spring, Fall)</th>
<th>Year(s) of Enrollment</th>
<th># of Credits (1, 2, or 3)</th>
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</table>

PART B: Research Committee

Research Mentor

Name

Title

Laboratory Affiliation

Address

City | State | Zip Code
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Email        Phone        Fax

Forensic Science Faculty Member (Faculty Advisor, if off-campus)

Name

Title

Department Affiliation

Address

City | State | Zip Code
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Email        Phone        Fax
### Committee Member

<table>
<thead>
<tr>
<th>Name</th>
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<th>Laboratory Affiliation</th>
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### Committee Member (Optional)

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<tr>
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<th>Title and Affiliation</th>
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### PART C: Authorizing Signatures

<table>
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<table>
<thead>
<tr>
<th>Mentor</th>
<th>Date</th>
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<tr>
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<tr>
<th>Committee Member</th>
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<table>
<thead>
<tr>
<th>Committee Member (Opt)</th>
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<tr>
<th>VA-DFS Dir. Tech. Serv. (if applicable)</th>
<th>Date</th>
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<thead>
<tr>
<th>VCU Forensic Science, Graduate Director</th>
<th>Date</th>
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</table>
If additional FRSC 793 credits are requested for extension or completion of the research project beyond what was initially approved in the Request Form, this form must be completed. Students may register only the total number of credits that is deemed appropriate for the work involved. A minimum of 100 hours of supervised laboratory research is expected per each additional credit. This form must be completed and delivered to the Forensic Science Graduate Director 1 weeks prior to the last day of classes in the semester preceding desired enrollment. The research mentor and faculty advisor must approve of this change. Students are encouraged to discuss this change with all committee members.

**Student Information**

Student name

Address

City

State

Zip Code

Email

Phone

Project/Research topic initially proposed:

Justification for additional credits (*use additional pages if necessary*):
Semester(s), credit(s), and year of initial FRSC 793 credits:

Semester(s), credit(s), and year of ADDITIONAL CREDITS requested:

Total Directed Research credits:

Research Mentor:

Name

Title and Affiliation

Email

Faculty Advisor (if different):

Name

Email

Directed Research Additional Credits – Authorizing Signatures:

Student

Date

Mentor

Date

Faculty Advisor (if applicable)

Date

Graduate Director

Date
Virginia Commonwealth University sends many students out each year to perform "field" work for academic credit. Many academics feel that these experiences are critical to the learning process, providing engaging, real-life, hands-on experience for the students. In Forensic Science, this type of immersion experience also provides networking opportunities and contacts for students, which are often crucial for future career development. The VCU Forensic Science Graduate Program Directed Research program is a required, 300 hour, 3 credit (minimum) experience. Additionally, Graduate students have the option of enrolling in independent studies as elective credit. At the Undergraduate level, internships and independent studies are both elective opportunities, with varying credits and associated hourly obligations. For either program, student pay is not required and is provided entirely at the discretion of the laboratory.

There are two legitimate legal issues for laboratories to consider when accepting either paid or unpaid students: liability and pay (Fair Labor laws).

**Liability**
Students who are placed in an off-campus NON-VCU laboratory pursuant to a course and/or a degree program requirement are covered for acts of negligence and general liability under the Commonwealth of Virginia Risk Management Self-Insured coverage. If there is an incident where liability is at-issue, the affected laboratory should immediately contact either the Program Director or the Department Chairperson so that the process can be initiated with the VCU Real Estate and Insurance Services Department.

**Pay**
Students participating in unpaid field work are required to earn academic credit due to federal employment laws and liability issues. The U.S. Department of Labor's Fair Labor Standards Act states that all workers must earn a minimum wage for work performed OR be enrolled in a bona fide trainee program such as a university Internship or research program. As a general rule, only non-profit public service, charitable, religious, and/or humanitarian organizations are eligible to accept “volunteers”.

Both of these aspects (liability and pay) require that the student be registered for credit in a course that is required or otherwise fulfilling a degree requirement.

We (the Department of Forensic Science) do not support or approve unpaid student field work unless students are actually fulfilling a requirement and enrolled for credit. In order to assure all parties that registration is required and that the experience is fulfilling a degree requirement, we have both the laboratory representative (research mentor), the student, and the Program Director sign a form indicating when and how much credit will be earned. Further, we actively caution laboratories against accepting unpaid student volunteers that are not receiving academic credit for their work.

All of this information has been generated with the assistance of the VCU Office of General Counsel - specifically with Associate General Counsel Susan T. Ferguson.

Inquiries regarding this policy can be addressed to:
Virginia Commonwealth University
Department of Forensic Science
1015 Floyd Ave.
Box 843079
Richmond VA  23284
fos@vcu.edu
APPENDIX 5
FRSC 793: Directed Research in Forensic Science
Faculty Advisor Proposal Checklist Form

Faculty advisors must thoroughly review the proposal to assure that the format and contents meet all requirements outlined in the FRSC 793 Directed Research Policies & Procedures Manual, including the details listed required components 1-7. Upon completion of this final review, the faculty member should complete this form (“FRSC 793 Faculty Advisor Proposal Checklist” form -Appendix 5). A completed and signed Appendix 5 should be submitted to the Graduate Director by the stated deadlines along with the final signed proposal and Appendix 6.

PART A: General Information

Student name ___________ V # ___________

Initial/Current Semester of FRSC 793 Enrollment: _____________________________________________

Host Laboratory: __________________________________________________________________________

Faculty Advisor Name & Title: ________________________________________________________________

Research Mentor Name & Title: ________________________________________________________________

PART B: Proposal Requirements

Check each box if the requirement is met. Explain any discrepancies. Reference FRSC 793: Directed Research in Forensic Science Policies & Procedures for additional explanations about the requirements listed.

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<thead>
<tr>
<th>General &amp; Format:</th>
<th>Meets Requirement?</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Appropriate length/depth for scope/nature of project</td>
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<td>_____________________________</td>
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<tr>
<td>12pt font, 1” margins</td>
<td>☐</td>
<td>_____________________________</td>
</tr>
<tr>
<td>Free of spelling/grammatical errors</td>
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<td>_____________________________</td>
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<tr>
<td>Significant detail provided</td>
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<table>
<thead>
<tr>
<th>Content:</th>
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</thead>
<tbody>
<tr>
<td>Title page with required information &amp; signatures</td>
<td>☐</td>
</tr>
<tr>
<td>Introduction sufficient for project</td>
<td>☐</td>
</tr>
<tr>
<td>Clear goals &amp; objectives</td>
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</table>

<table>
<thead>
<tr>
<th>Text</th>
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<tbody>
<tr>
<td>description of Experimental design with: #/origin of samples</td>
<td>☐</td>
</tr>
<tr>
<td># replicates</td>
<td>☐</td>
</tr>
<tr>
<td>General methodology/Instrum</td>
<td>☐</td>
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<tr>
<td>Experiment design/ measures</td>
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<tr>
<td>Data analysis approach</td>
<td>☐</td>
</tr>
<tr>
<td>Impact description</td>
<td>☐</td>
</tr>
<tr>
<td>Week-by-week timetable (15 sem. Wks/ 12 summer)</td>
<td>☐</td>
</tr>
<tr>
<td>Appropriate references used &amp; provided</td>
<td>☐</td>
</tr>
</tbody>
</table>

PART C: Approval Signature

By signing, I certify that this proposal meets all requirements as detailed in the FRSC 793: Directed Research Manual.

__________________________________________   ________________________________________   ___________________________
Signature                  Print Name                  Date

VCU Forensic Science, Faculty Advisor
FRSC 793 Directed Research Policies, Rev v9/11
FRSC 793: Directed Research in Forensic Science
Committee Meeting Documentation

This form must be completed, signed by the faculty advisor, and delivered to the Forensic Science Graduate Director prior to completion end of the final semester of FRSC 793 enrollment. This form will serve as the documentation of the required group committee meeting that should come at or around the halfway point of the proposed work. Note: Individual meetings with committee members are appropriate for the required group meeting. Video and/or teleconferencing may be used when face-to-face meetings are not possible.

PART A: Student Information

Student name: ____________________________________________

Current semester/year: ____________________________________

Host Laboratory: _________________________________________

Faculty Advisor Name & Title: ______________________________

Research Mentor Name & Title: _____________________________

PART B: Meeting Information

Date of meeting: ____________________________

Time of meeting: ____________________________

Location of meeting: __________________________________

Attendees (add names): On-site? Via video/telephone conferencing? (Provide location)

Research Mentor ____________________________________ □ □ ________________

Faculty Member ________________________________ □ □ ________________

Committee Member _____________________________ □ □ ________________

Committee Member (optional) ______________________ □ □ ________________

PART C: Approval Signature

By signing, I certify the information provided is accurate and meets the committee meeting requirements as detailed in the FRSC 793: Directed Research Manual.

Signature ____________________________ Print Name __________________ Date ___________

VCU Forensic Science, Faculty Advisor
This form must be completed, signed by the faculty advisor, and delivered to the Forensic Science Graduate Director no later than the last day of classes in the final semester of enrollment. This form will serve as the documentation of the required final group committee meeting that should come after the student seminar/oral defense. **Note:** Individual meetings with committee members are appropriate for this meeting. Video and/or teleconferencing may be used when face-to-face meetings are not possible.

Final committee meeting should include: private question & answer period with student, closed-door committee discussion of student performance, review of evaluations/comments with the student, development of timetable for completion of all evaluation forms (if needed). Committee members are encouraged to have all forms completed by this meeting.

**PART A: Student Information**

<table>
<thead>
<tr>
<th>Student name:</th>
<th>V #</th>
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</thead>
<tbody>
<tr>
<td>Current semester/year:</td>
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| Host Laboratory: |

<table>
<thead>
<tr>
<th>Faculty Advisor Name &amp; Title:</th>
<th>Research Mentor Name &amp; Title:</th>
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</thead>
<tbody>
<tr>
<td>____________________________</td>
<td>____________________________</td>
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</table>

<table>
<thead>
<tr>
<th>PART B: Meeting Information</th>
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</table>

<table>
<thead>
<tr>
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<th>Time of meeting:</th>
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<th>Location of meeting:</th>
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**Attendees (add names):**

<table>
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<tr>
<th>On-site?</th>
<th>Via video/telephone conferencing?</th>
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<td>(Provide location)</td>
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<table>
<thead>
<tr>
<th>Committee Member (optional):</th>
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**PART C: Final Grade & Approval Signature**

**Faculty Advisors should conduct a thorough discussion of the candidate’s performance during the final committee meeting and thoroughly review all written report & oral seminar evaluation forms. This information should be used to recommend a grade for the final term of enrollment. If the grade recommended is inconsistent with the evaluations, please provide a short explanation. Graduate Director shall confer all final grades.**

<table>
<thead>
<tr>
<th>Recommended grade:</th>
<th>Comments:</th>
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</table>

By signing, I certify the information provided is accurate and meets all related requirements as detailed in the FRSC 793: Directed Research Manual.

<table>
<thead>
<tr>
<th>Signature</th>
<th>Print Name</th>
<th>Date</th>
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</table>

**VCU Forensic Science, Faculty Advisor**