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**A Brief Introduction**

Hello and welcome to the Pharmaceutical Sciences Doctoral Degree Program at the University of Houston's College of Pharmacy! We're thrilled that you've chosen to embark on this exciting and challenging journey with us. Whether you're interested in Pharmacology, Pharmaceutics, or Medicinal Chemistry, you're in the right place to cultivate your passion and skills.

This handbook is your go-to guide for navigating the program. It's designed to provide you with all the essential information you'll need from the moment you step into our department until the day you defend your dissertation. You'll find details on course requirements, research opportunities, faculty leadership, and much more.

**Why This Handbook Matters**

The concentrations of Pharmacology, Pharmaceutics, and Medicinal Chemistry are housed within our Department of Pharmacological & Pharmaceutical Sciences (PPS). This handbook includes policies and procedures specific to these concentrations, along with links to broader University and College of Pharmacy policies. It's your one-stop resource for understanding the academic and administrative aspects of your doctoral journey.

**How to Use This Handbook**

1. **Getting to Know the Faculty**: Contact information for the PPS Program. We are here to guide you through your academic journey.

2. **Course Calendars and Requirements**: Familiarize yourself with the course calendars and requirements for your chosen concentration. This will help you plan your academic trajectory effectively.

3. **Research Opportunities**: Understand the types of research you can engage in, and how to earn research hours.

4. **Advising and Progress Monitoring**: Learn about the advising system, including interim advisors and permanent faculty advisors, as well as how your progress will be monitored.

5. **Milestones and Examinations**: Get a clear picture of the milestones you'll need to reach, such as qualifying exams and dissertation defenses, to successfully complete your doctoral degree.

6. **Professional and Personal Life**: Information on professional travel, vacation, and leave policies can also be found here.

7. **Appendices**: These include various rubrics that will be used to evaluate your written proposals, oral defenses, and dissertations.

We encourage you to refer to this handbook frequently and to reach out to our Graduate Program Staff members if you have any questions or need further clarification. We're here to support you every step of the way.

Once again, welcome to the program! We look forward to seeing you thrive and succeed.

**Best wishes,**

The Department of Pharmacological & Pharmaceutical Sciences
PPS Faculty Leadership

Dr. Ashok Kumar

Else and Phillip Hargrove Endowed Professor and Chair
5012 H2
Phone: 713-743-3376
e-mail: akumar43@uh.edu

Dr. Greg Cuny

Assistant Chair
Professor of Medicinal Chemistry
7036 H2
Phone: 713-743-1274
e-mail: gdcuny@uh.edu

Dr. Jason Eriksen

Chair of the Graduate Education Committee
Associate Professor of Pharmacology
7021 H2
Phone: 713-743-1226
E-mail: jeriksen@central.uh.edu

Graduate Program Staff

Mrs. Melissa Nieto

Program Director
6010 H2
Phone: 713-743-7725
E-mail: mnieto2@central.uh.edu

Mrs. Ellie Patton

Graduate Academic Advisor
6007B H2
Phone: 713-743-8443
E-mail: eralexan@cougarnet.uh.edu

Department address

Health 2 College of Pharmacy - PPS
4349 Martin Luther King Boulevard
Houston, TX 77204–500
Concentration Descriptions

A typical calendar for each concentration is listed on the following pages, along with distinct course requirements. Other training requirements are the same (see below). Specific course descriptions are in the Graduate Catalogue.
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<td>PCOL 7350</td>
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### Pharmacology Course Requirements

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<td>PCOL 7350</td>
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**Pharmaceutics – Course Calendar – Students Entering in Even Years**

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<td>PCEU 6180</td>
<td>Seminar</td>
<td>1</td>
</tr>
<tr>
<td>YEAR 4 (FALL)</td>
<td>PCEU 8X98</td>
<td>Doctoral Research Hours</td>
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</tr>
<tr>
<td>YEAR 4 (SUMMER)</td>
<td>PCEU 8X98</td>
<td>Doctoral Research Hours</td>
<td>9 **</td>
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<tr>
<td>YEAR 5 (FALL)</td>
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## Pharmaceutics – Concentration Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Name</th>
<th>Required Credits</th>
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<tbody>
<tr>
<td>PCEU 6441</td>
<td>Advanced Pharmacokinetics</td>
<td>4</td>
</tr>
<tr>
<td>PHCA 7308</td>
<td>Biostatistics &amp; Experimental Design</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 6120</td>
<td>Responsible Conduct of Biological Research</td>
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</tr>
<tr>
<td>PCOL 7370</td>
<td>Scientific Writing</td>
<td>3</td>
</tr>
<tr>
<td>PCEU 7355</td>
<td>Regulatory Affairs (or another course with approval)</td>
<td>3</td>
</tr>
<tr>
<td>PCEU 6241</td>
<td>Advanced Pharmaceutics I</td>
<td>2</td>
</tr>
<tr>
<td>PCEU 6242</td>
<td>Advanced Pharmaceutics II</td>
<td>2</td>
</tr>
<tr>
<td>PCEU 7340</td>
<td>Advanced Drug Delivery</td>
<td>3</td>
</tr>
<tr>
<td>PCOL 7180/7181</td>
<td>Seminar</td>
<td>6</td>
</tr>
<tr>
<td>PCOL 7141/7142</td>
<td>Drug Literature Review</td>
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<tr>
<td>PCOL (6x98, 8x98, and 8x99)</td>
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<td>Biostatistics &amp; Experimental Design</td>
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<tr>
<td><strong>YEAR 1 (SPRING)</strong></td>
<td>PCEU 6198</td>
<td>Special Problems</td>
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**YEAR 1 (SUMMER)**

| **YEAR 2 (FALL)** | PCOL 7370| Scientific Writing                           | 3            |
| **YEAR 2 (FALL)** | PCEU 7141| Drug Literature Review                       | 1            |
| **YEAR 2 (FALL)** | PCEU 6180| Seminar                                      | 1            |
| **YEAR 2 (FALL)** | PCEU 6498| Special Problems                             | 4            |
| **YEAR 2 (SPRING)** | PCEU 6242| Advanced Pharmaceutics I                     | 2            |
| **YEAR 2 (SPRING)** | PCEU 6243| Advanced Pharmaceutics II                    | 2            |
| **YEAR 2 (SPRING)** | PCEU 7355| Regulatory Affairs (or another course with approval) | 3 |
| **YEAR 2 (SPRING)** | PCEU 6180| Seminar                                      | 1            |
| **YEAR 2 (SPRING)** | PCEU 7142| Drug Literature Review                       | 1            |

**YEAR 2 (SUMMER)**

| **YEAR 3 (FALL)** | PCOL 8X98| Doctoral Research Hours                      | 7            |
| **YEAR 3 (FALL)** | PCEU 6180| Seminar                                      | 1            |
| **YEAR 3 (FALL)** | PCOL 7142| Drug Literature Review                       | 1            |
| **YEAR 3 (SPRING)** | PCOL 8X98| Doctoral Research Hours                      | 7            |
| **YEAR 3 (SPRING)** | PCEU 6180| Seminar                                      | 1            |
| **YEAR 3 (SPRING)** | PCOL 7142| Drug Literature Review                       | 1            |

**YEAR 3 (SUMMER)**

| **YEAR 4 (FALL)** | PCOL 8X98| Doctoral Research Hours                      | 7            |
| **YEAR 4 (FALL)** | PCOL 7142| Drug Literature Review                       | 1            |
| **YEAR 3 (FALL)** | PCEU 6180| Seminar                                      | 1            |
| **YEAR 4 (SPRING)** | PCOL 8X98| Doctoral Research Hours                      | 9            |

**YEAR 4 (SUMMER)**

<p>| <strong>YEAR 5 (FALL)</strong> | PCOL 8X98| Doctoral Research Hours                      | 9 **         |
| <strong>YEAR 5 (SPRING)</strong> | PCEU 8X98| Doctoral Research Hours                      | 6            |
| <strong>YEAR 5 (SPRING)</strong> | PCEU 8399| Doctoral Dissertation                        | 3            |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
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</tr>
<tr>
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<td></td>
<td><strong>75</strong></td>
</tr>
</tbody>
</table>
General Course Descriptions for All Concentrations

Didactic Courses

These are your traditional classroom-based courses featuring lectures, presentations, exercises, and exams. They are letter-graded on a scale of A to F. These courses form the core of your academic learning and are essential for building a strong foundation in your chosen field.

Elective Courses

Electives offer you the flexibility to explore topics that align with your research interests. You can choose these courses from within the College of Pharmacy, other colleges at the University of Houston, or even from Gulf Coast Consortia institutions in the Houston area. However, your choices should be made in consultation with your Faculty Advisor and dissertation committee to ensure they add meaningful insights to your dissertation topic. If you wish to take a course outside of the College of Pharmacy, you should identify a course 4-6 weeks before the start of the semester. To enroll, you will need to get advanced approval from the Course Coordinator, get approval from your Faculty advisor, and fill out an inter-institutional course form that is approved by the GEC.

Seminar Courses (PCOL/PCEU 7180/7181)

Unlike traditional lecture courses, the Seminar course is a professional development opportunity that requires mandatory attendance at weekly departmental seminars. These seminars feature professionals from the field who share their research and interact with students. While not mandatory, you are strongly encouraged to enroll for 1 credit hour for this seminar course each long semester throughout your program. These courses are graded on a Satisfactory/Unsatisfactory (S/U) basis.

Enrolling in this course may sometimes push your total credit hours above 9, incurring additional tuition costs. If this happens, you can opt out of registering for the course but must still attend the seminars. A minimum of 4 credit hours in Seminar courses is required throughout your program.

Drug Literature Review (PCOL/PCEU 7141/7142)

This course aims to sharpen your skills in critically reviewing literature in Pharmacology, Pharmaceutics, or Medicinal Chemistry. The course involves group discussions, where you'll present your analyses of selected publications. Both your peers and the instructor will evaluate your presentations. This course is also graded on a Satisfactory/Unsatisfactory (S/U) basis.

Similar to the Seminar course, registering for this course may push your total credit hours above 9. You can opt out of registering but must still attend. A minimum of 4 credit hours in Seminar courses is required throughout your program.

PPS Concentration Milestones

In addition to successfully completing your graded courses, you'll also need to meet certain milestones to maintain satisfactory academic progress. These milestones are briefly outlined below, and an estimated timeline is provided for your convenience. Bolded Milestones are strict deadlines that must be met. If you miss one of these inflexible deadlines, it's crucial to immediately consult with the Graduate Office to resolve the issue, or you may risk having your enrollment placed on hold.

As we recognize that students will progress at different rates, other program milestones offer a bit more flexibility. However, you are still expected to complete unbolded milestones with no more than one semester of delay. Failing to meet these milestones without a valid reason could lead to initial warnings from the Assistant Dean for Graduate Programs. Continued failure to meet these milestones may result in your enrollment being placed on
hold, temporary suspension of employment with loss of stipend, loss of Graduate Tuition Fellowship (GTF), and even potential dismissal from the program.

<table>
<thead>
<tr>
<th>Concentration Milestone</th>
<th>Deadline</th>
<th>Estimated Date</th>
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<tbody>
<tr>
<td>Choosing a faculty advisor</td>
<td>End of Year 1</td>
<td>August 2024</td>
</tr>
<tr>
<td>Appointing a committee</td>
<td>3rd long semester</td>
<td>December 2024</td>
</tr>
<tr>
<td>Committee meeting (Year 2)</td>
<td>4th long semester</td>
<td>May 2025</td>
</tr>
<tr>
<td>Proposal Defense</td>
<td>End of Year 2</td>
<td>August 2025</td>
</tr>
<tr>
<td>Written Qualifier</td>
<td>End of Year 2</td>
<td>August 2025</td>
</tr>
<tr>
<td>Committee meeting (Year 3)</td>
<td>6th long semester</td>
<td>May 2026</td>
</tr>
<tr>
<td>Committee meeting (Year 4)</td>
<td>8th long semester</td>
<td>May 2027</td>
</tr>
<tr>
<td>Committee meeting (Year 5) Approval to Write Dissertation</td>
<td>9th long semester</td>
<td>December 2027</td>
</tr>
<tr>
<td>Student Seminar</td>
<td>9th long semester (semester before graduation)</td>
<td>August – December 2027</td>
</tr>
<tr>
<td>Applying to graduate</td>
<td>10th long semester</td>
<td>January - March 2028</td>
</tr>
<tr>
<td>Submit dissertation to advisor &amp; committee</td>
<td>10th long semester 14 days before defense</td>
<td>March - April 2028</td>
</tr>
<tr>
<td>Dissertation Defense announcement</td>
<td>10th long semester 7 days before defense</td>
<td>March - April 2028</td>
</tr>
<tr>
<td>Dissertation Defense</td>
<td>10th long semester</td>
<td>March - April 2028</td>
</tr>
<tr>
<td>Dissertation Approval &amp; Upload to Vireo</td>
<td>10th long semester</td>
<td>March - May 2028</td>
</tr>
<tr>
<td>Graduation ceremony</td>
<td>10th long semester</td>
<td>May 2028</td>
</tr>
</tbody>
</table>

**Research Hours**

**Special Problems Research Credits (PCOL/PCEU 6X98)**

Before you become a formal doctoral candidate—meaning before you've successfully passed your qualifying exams—you'll be engaged in what we call "Special Problems" research, coded as PCOL/PCEU 6X98. These credits are designed to give you academic recognition for the laboratory research you're conducting in the early stages of your academic journey. You can accumulate a maximum of 20 credit hours in Special Problems research, which will count towards the minimum research hours required for your degree. Any research hours beyond this limit will need to be in the form of Doctoral Research or Doctoral Dissertation credits. These Special Problems research credits are graded on a Satisfactory/Unsatisfactory (S/U) basis, emphasizing the developmental nature of this phase of your research.

**Full-Time Enrollment Considerations**

While only up to 20 credit hours of Special Problems research can count towards your degree, you may take additional 6X98 credits to meet full-time enrollment requirements. This is particularly relevant for employment, immigration, and continuous enrollment purposes. Full-time enrollment is defined as 9 credit hours during the spring and fall semesters. Summer enrollment is generally not required, except under specific circumstances, which you can find more about here.

**Research and Dissertation Credit Requirements**

As you transition from coursework to the research phase of your doctoral program, you'll be enrolling in specific research credits that mark your progress towards becoming a Ph.D. These credits are categorized into two types: PCOL/PCEU 8X98 (Doctoral Research) and PCOL/PCEU 8X99 (Doctoral Dissertation).
Doctoral Research (PCOL/PCEU 8X98)

These are the credits you'll take after successfully passing your written qualifying exam and presenting your proposal, up until the semester before your planned graduation. They signify that you are formally considered a doctoral candidate and are actively engaged in research.

Doctoral Dissertation (PCOL/PCEU 8X99)

These credits are reserved for your final semester in the program, culminating in your dissertation defense and graduation. Unlike the Doctoral Research credits, these are letter-graded (A, B, C, D, F) to reflect the quality and rigor of your completed dissertation.

Credit Hour Requirements

To fulfill the degree requirements, you'll need to complete a minimum of 18 credit hours combined from Doctoral Research and/or Doctoral Dissertation courses. Required credit hours vary depending on the Concentration, so be sure to review your concentration requirements.

Grading Scheme

While Doctoral Research credits are graded on a Satisfactory/Unsatisfactory (S/U) basis, focusing on your ongoing research progress, the Doctoral Dissertation course in your final semester will receive a letter grade, reflecting the culmination of your academic journey.

Student Departmental Seminar

As you near the completion of your doctoral studies, one of the key milestones you'll encounter is the departmental student seminar. This seminar serves a dual purpose: it offers you a platform to practice your oral presentation skills and provides an opportunity to receive constructive feedback on your research and dissertation from both faculty and peers. You'll be expected to prepare a seminar based on the research findings you've gathered for your dissertation thus far. This presentation will be open to the departmental faculty and student body, fostering an environment of academic exchange and learning.

It's important to schedule this seminar for the semester preceding your planned graduation date, commonly referred to as your penultimate semester. Given that available dates may be limited, early scheduling is strongly advised. The seminar will be graded on a Satisfactory/Unsatisfactory (S/U) basis, with the primary focus on your skill development and readiness for your forthcoming dissertation defense. For a detailed understanding of the evaluation criteria, please refer to the seminar feedback rubric available in the Appendices.

Academic and Research Advisors

Interim advisors

As a new student, you'll be guided by two interim advisors: the Graduate Academic Advisor (GAA) and the Assistant Chair of the PPS Department. Starting from your first day of orientation, these advisors will serve as your primary sources of information, guidance, and support until you select a permanent faculty advisor.

Graduate Academic Advisor (GAA): The GAA plays a multifaceted role, including confirming your course enrollment each semester, assisting with academic planning, and managing your student records. You'll meet with the GAA at least twice per semester to discuss coursework and any areas where you might need additional support. The GAA also helps coordinate your degree plan and facilitates communication among students, staff, and faculty.

Assistant Chair of the PPS Department: This advisor helps you acclimate to the department, the College, and
the University at large. They provide encouragement and guidance, easing your transition into the graduate program. At the end of each semester, they will evaluate your progress and discuss areas for improvement.

**Permanent Faculty Advisor**

After completing your first year and any required research rotations, you'll select a permanent faculty advisor. This is a mutual decision between you and the advisor, formalized by signing the Appointment of Major Advisor Form. Your permanent advisor will then oversee all aspects of your academic and research progress.

Your faculty advisor serves as your mentor and role model, responsible for your overall academic and research development. Regular meetings—at least once at the beginning of each semester—are essential for planning your academic trajectory and monitoring your research progress.

**Changing Advisors**

If you find that you're unable to work effectively with your advisor, you may seek a new advisor and laboratory, provided you're not on academic probation. However, note that RA and/or TA positions are not guaranteed to move with you. Any change must be approved by the Graduate Education Committee (GEC) and the Department Chair. The GEC will review the written evaluations of the student by the advisor in rotation reports, reports of the student’s committee meetings and attempt to assist the student in either resolving the problem and/or identifying another faculty advisor position if possible. However, in instances where this is not possible or where there is documentation of repeated notifications to the student to correct deficiencies in performance without evidence of appropriate action by the student to correct these deficiencies, it may result in the student’s dismissal from the graduate program.

**Monitoring of Graduate Student Progress**

Your academic and research progress is a focal point throughout your time in the program, and a structured monitoring system is in place to ensure you’re on the right track. Initially, your Interim Advisors will oversee your progress, which will later be managed by your permanent faculty advisor and dissertation committee. In your first year, rotation reports from both you and faculty members play a crucial role in your evaluations.

Each graduate student must meet with their advisor and their dissertation committee at least once a year. It's mandatory for you to have at least one annual meeting with your advisor and dissertation committee. However, the PPS Department strongly recommends bi-annual meetings, ideally in September and March, especially once you've reached the status of doctoral candidate.

**Components of the Progress Report**

Following these meetings, your advisor will compile a summary of the committee's deliberations and recommendations. This report will be shared with you and each committee member, and a copy will be submitted to the Assistant/Associate Dean for the Graduate Program for inclusion in your student file. The report should minimally cover:

1. Previous Accomplishments
2. Current Progress
3. Future Plans
4. Predicted Completion Date

Your faculty advisor and committee members are also required to include a narrative in your progress report. This narrative should outline any significant issues that could potentially impact your ability to complete your dissertation successfully. This report serves as a comprehensive review and should be discussed in detail with your faculty advisor.
These progress reports are confidential and will be accessible only to you, the Department Chair, the Assistant/Associate Dean for Graduate Programs, and the Graduate Education Committee. For your convenience, a form for this process is available on the UH College of Pharmacy website.

**Laboratory Rotations and Advisor Selection**

**Understanding Laboratory Rotations**

As a new student, and whether you arrive as a TA or an RA, you'll participate in laboratory rotations to familiarize yourself with research practices and potential dissertation advisors. We encourage you to contact your first potential advisors within the first week of the program. The rotations aim to (1) introduce you to potential dissertation advisors, (2) equip you with research techniques and practices, and (3) allow for critical evaluation by laboratory heads.

**During your first year, you are required to complete two mandatory rotations, with an optional third rotation if needed.** Each rotation lasts a minimum of 8 weeks. The first rotation should commence within the first two weeks of the fall semester, while the second can start immediately after the first or at the beginning of the spring semester. You may opt to complete your second rotation in the same lab as your first. However, if you plan to stay in the same laboratory, you will need to submit a petition to the Graduate Education Committee (GEC), along with confirmation from the Principal Investigator (PI) of the lab.

**Reporting and Evaluations**

Within one week of completing each rotation, you must submit a brief written report on your research activities to the faculty member overseeing the lab and to the GEC Chair. Similarly, the faculty member will assess your performance, motivation, and potential, and submit a report to the GEC Chair. The GEC will review both reports and may provide feedback and consultation as necessary. Required forms for this process can be found here.

**Selecting a Dissertation Advisor**

By the end of your first summer, you should have mutually agreed upon a dissertation advisor, subject to approval by the departmental Chair. An agreement form verifying this relationship must be signed by both you and your advisor. Failure to secure an advisor by the end of the first summer may result in loss of financial support and possible dismissal from the program.

**Special Considerations for Advisors**

**Co-Advisor Requirement:** If your major advisor does not have a doctorate earned with a dissertation (e.g., Pharm.D.), a co-advisor with an earned Ph.D. must also be appointed. Alternatively, you can file a petition to the GEC to evaluate the credentials of your major advisor. Approvals are granted on a case-by-case basis.

**Formation of the Dissertation Committee**

Within six months of choosing your research advisor, it's essential to form your doctoral dissertation committee. This committee plays a vital role in guiding both the academic and research dimensions of your doctoral program.

Your dissertation committee should consist of a minimum of five members:

- **Faculty Advisor (Chair):** Your major advisor serves as the chair of the committee.
- **Departmental Members:** Up to three additional members must come from the PPS department.
- **External Members:** Up to two members should be external to the PPS Department and/or the University of Houston. Detailed guidelines for the composition and credentials of the committee can be found in the...
Appointment of Dissertation Committee form.

To formalize the committee, you and your major advisor will complete and sign the Appointment of Dissertation Committee form. This form should then be forwarded to the Graduate Academic Advisor (GAA), who will collect additional signatures from the chair of the Graduate Education Committee (GEC) and complete any other required steps.

Enrollment Hold and Exceptions

Failure to form your dissertation committee by the end of your third long semester will result in an enrollment hold. However, under certain circumstances, the designation of external committee members may be postponed. For instance, if there is insufficient progress in identifying your dissertation project, it may be challenging to select appropriate external members.

In such cases,

- **Notification to GEC**: You must inform the GEC chair of this decision through a memo, which will be added to your student file.
- **Target Date**: Your memo should specify a target date by which it is expected that the external committee members will be designated.
- **Procedure for Delays**: If other circumstances cause a delay in this milestone, a similar notification process should be followed, always keeping the GEC informed.

Requirements for Doctoral Candidacy

Before you can be fully admitted as a doctoral candidate, you must meet certain prerequisites. These include successfully completing all the didactic courses required for your program and maintaining good standing in other graduate credit hours. Additionally, you'll need to complete a two-step Qualifying Examination (QE) process, which should be finalized no later than the end of your second year in the graduate program.

Two-Step Qualifying Examination

To achieve doctoral candidacy, you are required to complete a two-step qualifying examination, consisting of:

- **Dissertation Proposal and Oral Defense**: Develop a comprehensive dissertation proposal that outlines your research project and successfully pass the oral defense of this proposal.
- **Written Qualifying Examination**: Complete a written exam that assesses your knowledge in your program area and the specific field of your dissertation research.

You won't be eligible to register for Doctoral Research credit hours until you've successfully completed both the oral defense and the written qualifying examination. Until these milestones are achieved, you can receive credit for your research activities by registering for Special Problems courses, coded as PCOL 6X98 or PCEU 6X98.


By the end of your second year, you're required to prepare and orally defend a dissertation proposal. This proposal should follow the format of an NIH individual predoctoral fellowship (F31) grant proposal. While the published guidelines for the Research Plan should be adhered to, the entire proposal should be double-spaced for easier reading and correction. Typically, you'll draft this document during the Scientific Writing class in the spring of your second year, and in close collaboration with your faculty advisor. A polished version of the proposal must be submitted to your advisor and Doctoral Dissertation Committee at least 14 days before scheduling the
The Defense Procedure

The proposal defense is a private meeting between you and your Doctoral Dissertation Committee. You'll kick off the defense with a roughly 30-minute presentation summarizing your preliminary data and proposed research. The committee's examination will follow, focusing not only on your proposed project but also on relevant literature and prior coursework. The goal is to assess both your specific research plans and your broader understanding of the field.

Committee Recommendations

At the conclusion of your defense, the committee will recommend one of the following:

- **Acceptance Without Modification:** You'll proceed with your study as outlined. Your proposal and a signed Proposal Approval Form will be submitted to the Graduate Education Committee (GEC) within three days for inclusion in your student file.

- **Acceptance With Modification:** The committee will suggest specific changes to your proposal. A revised draft, along with a signed Approval Form, should be submitted to the GEC within two weeks of the defense.

- **Rejection:** This could occur if the committee finds the proposal underdeveloped or if you're unable to adequately defend it. You'll receive guidance on areas for improvement and will have up to six months to schedule another defense.

Documentation and Next Steps

Your faculty advisor will prepare a memo summarizing the defense and the committee's recommendations. Copies will be provided to you and each committee member, and one will be placed in your student file. You have two chances to successfully defend your proposal. If unsuccessful on the second attempt, you'll be transitioned into a contingency M.S. program, or dismissed from the Ph.D. program if you already hold an M.S. degree from the Department.

University Policy and Timelines: Consequences of Non-Completion

Unless granted an exemption by the GEC, both qualifying exams must be completed by the end of your second year. Failure to do so is considered an issue of academic progression and may result in termination of enrollment in the program, as per University policy.

Exam Structure and Focus

The written qualifying examination is designed to test your understanding of core concepts in your discipline, particularly how they relate to your research project. The questions aim to evaluate your ability to integrate knowledge from multiple courses and apply it to new challenges. Each member of your committee contributes to the exam and may assign specific readings or highlight areas for focused study to help you prepare.

Grading Criteria

Each question on the exam will be graded by at least two different faculty members, who may or may not be on your committee but will be experts in the relevant field. Graders will return the questions to your advisor within 10 days. To pass, you must achieve a minimum overall grade of 75% and no less than 70% from the mean score of the two graders for each individual question.

Retake Policy
If you don't pass the exam on your first attempt, you'll have the opportunity to retake it no later than the end of the following semester. If you fail to meet the 70% threshold for a single question, the committee may allow you to retest that specific question. Failing the exam twice will prevent you from advancing to Doctoral candidacy, but you may be eligible for a contingency master's degree. Upon successful completion, you'll submit the Completion of Written Qualifier form, signed by your advisor and all committee members.

**Completing Your Doctoral Degree**

**Research and Dissertation Credits**

As a graduate student in either the Pharmacology or Pharmaceutics doctoral program, you're required to complete at least 18 hours of Doctoral Research (PCOL 8X98) or Doctoral Dissertation (PCOL 8X99). You can only register for these courses after achieving Doctoral Candidacy, which makes it crucial to form your dissertation committee and defend your proposal in a timely manner.

**Seminar Requirement**

As a Ph.D. candidate, you must present a 50-minute research seminar based on your dissertation work during your fourth year. This seminar should be scheduled at least one semester before your planned graduation date. Committee members are encouraged to attend, and audience feedback will be collected using a survey instrument developed by the Graduate Education Committee (GEC).

**Written Dissertation and Dissertation Defense**

To earn your PhD degree, your Committee must approve your written dissertation, and you must defend your dissertation in a public defense. Two weeks prior to your defense, you must coordinate with the Graduate Academic Advisor (GAA) to send out a public announcement that must be posted at least one week before your defense. A dissertation defense consists of a 45–60-minute public seminar, followed by a private meeting with your dissertation committee. After the meeting, the committee will complete the University of Houston signature forms, as outlined in Section 16 of the Ph.D. Handbook.

**Professional Travel**

For guidelines on professional travel during your Ph.D. journey, please refer to Section 10 of the Ph.D. Handbook.

**Vacation and Leave**

The expectation is that you'll be working on your degree year-round; taking an entire summer off is generally not an option unless it's for an approved internship. The best time for vacation is during the break between the fall and spring semesters when the University of Houston is closed. If you wish to take additional days off at other times, you must adhere to the guidelines outlined in Section 9 of the Ph.D. Handbook and submit a Travel Form. Always secure the required permissions before making any travel arrangements. These guidelines apply to Research Assistants (RAs), Teaching Assistants (TAs), and scholarship students. TAs should be particularly mindful of their required duties when planning any time off.
Rubric – Written proposal

Instructions

Competed forms are to be treated as confidential and are to be turned to the PI, who will turn them to the Assistant/Associate Dean for graduate studies (not to the student) at the conclusion of the defense. A summary copy of the written comments and overall evaluation from the committee members will be provided to the student, the major advisor and the student’s committee members by that same office.

Student Name: ________________________ Committee Member: ________________________
Degree Program: ________________________ Major Advisor: ________________________
Date of exam: ________________________ Proposal Title: ________________________

<table>
<thead>
<tr>
<th>Written proposal</th>
<th>Do not meet expectations</th>
<th>Meet expectations</th>
<th>Exceed Expectations</th>
<th>Comments</th>
</tr>
</thead>
</table>
| **Quality of the science proposed** | o Argument are incorrect, incoherent, or flawed  
o Objectives poorly defined  
O Not understanding of associate literature in topic  
o Poor understanding of theoretical concepts  
o Limited originality  
o Limited creativity and insight | o Argument are coherent, and clear  
o Objectives are clear  
o Understanding of associate literature in topic  
o Understanding of theoretical concepts  
o Demonstrate originality  
o Demonstrate creativity and insight | o Arguments are superior  
o Objectives well defined  
o Well knowledge of associate literature in topic  
o Mastery of theoretical concepts  
o Exceptional originality  
o Exceptional creativity and insight | |
| **Quality of the writing** | o Writing is weak  
o Numerous grammatical and spelling errors  
o Organization is poor  
o Document is poor | o Writing is adequate  
o Few grammatical and spelling errors  
o Organization is logical  
o Document is adequate | o Writing is publication quality  
o No grammatical and spelling errors  
o Organization is excellent  
o Document is excellent | |
| **Overall assessment** | o Does not meet expectations | o Meets expectations | o Exceed expectations | |

Other comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
### EVALUATING THE WRITTEN PROPOSAL (Science)

<table>
<thead>
<tr>
<th>Written proposal (Research/science)</th>
<th>Y/N</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ABSTRACT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provides overview of study</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Presents only needed details</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td><strong>SPECIFIC AIMS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presents what is relevant and known</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Moves to what is not known, and ideas</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Presents a clear research question</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Presents preliminary experiments</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Gives overview of experimental approach</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Proposes adequate methods.</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Indicates parameters of study (time, dosage, species, gender, n, etc)</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Proposes statistical approaches to evaluate outcomes, if necessary</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Gives prediction of outcomes</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Proposes additional approaches</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Present relevance of answers obtained</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td><strong>OTHER FEATURES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adheres to the limits in pages and words established by the program</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Correct use of references</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Correct use and presentation of figure/table and legends</td>
<td>Y/N</td>
<td></td>
</tr>
</tbody>
</table>

Other comments:

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**Rubric – Oral Proposal Defense**

**Instructions**

Competed forms are to be treated as confidential and are to be turned to the PI, who will turn them to the Assistant/Associate Dean for graduate studies (not to the student) at the conclusion of the defense. A summary copy of the written comments and overall evaluation from the committee members will be provided to the student, the major advisor and the student’s committee members by that same office.

Student Name: ___________________________  Committee Member: ________________

Degree Program: __________________________  Major Advisor: ___________________

Date of exam: ________________  Proposal Title: ______

<table>
<thead>
<tr>
<th>Oral proposal defense</th>
<th>Do not meet expectations</th>
<th>Meet expectations</th>
<th>Exceed Expectations</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of the presentation</td>
<td>o Poorly organized  o Poor presentation  o Poor communication skills  o Slides difficult to read</td>
<td>o Clearly organized  o Clear presentation  o Good communication skills  o Slides clear to read</td>
<td>o Very well organized  o Professional presentation  o Excellent communication skills  o Outstanding slides</td>
<td></td>
</tr>
<tr>
<td>Breadth of knowledge</td>
<td>o Critical weakness in depth of knowledge  o Lack of critical thinking skills  o Presentation narrow in scope  o Unacceptable topic presentation</td>
<td>o Some depth of knowledge  o Above average critical thinking skills  o Able to draw from knowledge into several disciplines  o Acceptable topic presentation</td>
<td>o Exceptional depth of knowledge  o Well develop thinking skills  o Able to interconnect and extend knowledge to multiple disciplines  o Superior topic presentation</td>
<td></td>
</tr>
<tr>
<td>Quality of response to questions</td>
<td>o Incomplete/require prompting  o Arguments poorly presented  o Lack of knowledge in subject area  o Do not meet level expected for program</td>
<td>o Responses complete  o Arguments well presented  o Adequate knowledge in subject area  o Meet level expected for program</td>
<td>o Eloquent responses  o Arguments skillfully presented  o Superior knowledge in subject area  o Exceed level expected for program</td>
<td></td>
</tr>
<tr>
<td>Overall assessment</td>
<td>o Does not meet expectations</td>
<td>o Meets expectations</td>
<td>o Exceed expectations</td>
<td></td>
</tr>
</tbody>
</table>

Other comments:
**Rubric – Student Seminar**

**Instructions:** Competed forms (by students and faculty) are to be turned to the PI, who will turn them to the Assistant/Associate Dean for graduate studies (not to the student) at the conclusion of the seminar. A summary copy of the written comments and overall evaluation from the peers and audience will be provided to the student and the major advisor by that same office.

Student Presenter Name: ___________________________  Student/evaluator: ___________________________

Degree Program: ___________________________  Major Advisor: ___________________________

Date of exam: ___________________________  Proposal Title: ___________________________

<table>
<thead>
<tr>
<th>Delivery of presentation</th>
<th>Excellent (4)</th>
<th>Very good (3)</th>
<th>Fair (2)</th>
<th>Poor (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Speaking skills</strong></td>
<td>Correct and clear voice.</td>
<td>Voice is clear, little fluctuation.</td>
<td>Voice fluctuates from low to clear.</td>
<td>Mumbles / voice too low, difficult to hear</td>
</tr>
<tr>
<td><strong>Audience interaction</strong></td>
<td>Audience can hear well at all times</td>
<td>Audience can hear well most of the time</td>
<td>Difficult to hear at times</td>
<td>Reads slides word for word</td>
</tr>
<tr>
<td></td>
<td>Refers/points to slides to follow presentation</td>
<td>Refers/points to slides to follow presentation</td>
<td>Reads some and refers to slides to make points</td>
<td></td>
</tr>
<tr>
<td><strong>Eye contact</strong></td>
<td>Eye contact all the time / engaged with audience</td>
<td>Eye contact majority of the time</td>
<td>Occasional eye contact</td>
<td>No or just occasional eye contact</td>
</tr>
<tr>
<td></td>
<td>No mannerisms</td>
<td>A little nervous</td>
<td>Nervous, some distracting mannerisms</td>
<td>Uncomfortable speaker</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Presentation Visuals</th>
<th>Slides and Graphics</th>
<th>Very pleasing visuals and layout. Uses graphics that very well explain and reinforce presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Organization presentation</td>
<td>Very easy to follow, information presented as an interesting story, very logical</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Presentation Visuals</th>
<th>Slides and Graphics</th>
<th>Adequate visuals and layout. Uses graphics that explain and reinforce presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Organization presentation</td>
<td>Easy to follow, information presented in logical sequence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Presentation Visuals</th>
<th>Slides and Graphics</th>
<th>Cluttered visuals. Some graphics failed to explain and reinforce the presentation.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Organization presentation</td>
<td>Most information presented in sequence Some irrelevant information</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Presentation Visuals</th>
<th>Slides and Graphics</th>
<th>Confusing layout and too many graphics. Graphics do not explain or reinforce the presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Organization presentation</td>
<td>Hard to follow; jumping information Lacks clear transition</td>
</tr>
<tr>
<td>Pace and length</td>
<td>Well pace</td>
<td>Most of seminar well-paced</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------</td>
<td>--------------------------</td>
</tr>
</tbody>
</table>

**Content**

<table>
<thead>
<tr>
<th>Subject knowledge</th>
<th>Demonstrate full knowledge / answered all questions with elaboration</th>
<th>Knowledgeable / answered all questions well</th>
<th>Comfortable with information / answered most questions</th>
<th>Does not have a grasp on subject / difficulty answering questions</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Background Lit. review</th>
<th>Sufficient material for clear understanding and exceptionally presented</th>
<th>Sufficient material effectively presented and background clear to understand</th>
<th>Background dominated presentation, but clear to understand</th>
<th>Not clearly related to topic</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hypothesis Research Plan</th>
<th>Challenging research question</th>
<th>Focused research question</th>
<th>Poorly focused research question</th>
<th>Inadequate research question</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Well-developed research plan</td>
<td>Minor flaws in research plan</td>
<td>Incomplete research plan</td>
<td>Incoherent research plan</td>
</tr>
<tr>
<td></td>
<td>Original</td>
<td>Good contribution to field</td>
<td>Mild contribution to field</td>
<td>No contribution to field</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Methods</th>
<th>Sufficient detail and exceptionally presented</th>
<th>Sufficient to understand and effectively presented</th>
<th>Enough to understand but not clearly presented</th>
<th>Too brief or insufficient OR Too much detail</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Results Analysis</th>
<th>All figures are clear and exceptionally explained and interpreted</th>
<th>Most figures are clear and well explained</th>
<th>Most figures are clear and reasonably explained</th>
<th>Figures hard to read / Lacking explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Most figures are clear and reasonably explained</td>
<td>Errors in analysis, and missed possibilities</td>
<td>Major errors in data interpretation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conclusions</th>
<th>Insightful conclusions supported by evidences</th>
<th>Conclusions are supported by evidence</th>
<th>Conclusions lack some evidence support</th>
<th>Conclusions are not supported by evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recommends future direction for research</td>
<td>Some discussion on implications and future research</td>
<td>Minimal discussion of implications and future research</td>
<td>No discussion regarding implications and/or future work</td>
</tr>
<tr>
<td>Significance</td>
<td>Exceptionally well explained</td>
<td>Mentioned and explained</td>
<td>Mentioned</td>
<td>No mentioned / just hinted</td>
</tr>
</tbody>
</table>

Other comments:
Rubric – Written Dissertation

Instructions

Competed forms are to be treated as confidential and are to be turned to the PI, who will turn them to the Assistant/Associate Dean for graduate studies (not to the student) at the conclusion of the defense. A summary copy of the written comments and overall evaluation from the committee members will be provided to the student, the major advisor and the student’s committee members by that same office.

Student Name: ____________________________ Committee Member: ____________________________

Degree Program: ____________________________ Major Advisor: ____________________________

Date of exam: ____________________________ Proposal Title: ______

EVALUATING THE WRITTEN DISSERTATION (Document)

<table>
<thead>
<tr>
<th>Dissertation</th>
<th>Do not meet expectations</th>
<th>Meet expectations</th>
<th>Exceed Expectations</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of the research performed</td>
<td>o Argument are incorrect, incoherent, or flawed</td>
<td>o Argument are coherent, and clear</td>
<td>o Arguments are superior</td>
<td>o Mastery of theoretical concepts</td>
</tr>
<tr>
<td></td>
<td>o Objectives poorly defined</td>
<td>o Objectives are clear</td>
<td>o Exceptional originality</td>
<td>o Exceptional originality</td>
</tr>
<tr>
<td></td>
<td>o Limited originality</td>
<td>o Demonstrate originality</td>
<td>o Exceptional creativity and insight</td>
<td>o Exceptional creativity and insight</td>
</tr>
<tr>
<td></td>
<td>o Limited creativity and insight</td>
<td>o Demonstrate creativity and insight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of the writing</td>
<td>o Writing is weak</td>
<td>o Writing is adequate</td>
<td>o Writing is publication quality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Numerous grammatical and spelling errors</td>
<td>o Few grammatical and spelling errors</td>
<td>o No grammatical and spelling errors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Organization is poor</td>
<td>o Organization is logical</td>
<td>o Organization is excellent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Document is poor</td>
<td>o Document is adequate</td>
<td>o Document is excellent</td>
<td></td>
</tr>
<tr>
<td>Overall assessment</td>
<td>o Does not meet expectations</td>
<td>o Meets expectations</td>
<td>o Exceed expectations</td>
<td></td>
</tr>
</tbody>
</table>

Other comments/recommendations:

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________
## EVALUATING THE DISSERTATION (Science)

<table>
<thead>
<tr>
<th>Written proposal (Research/science)</th>
<th>Y/N</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ABSTRACT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provides overview of study</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Presents only needed details</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td><strong>SPECIFIC AIMS and RESULTS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presents what is relevant and known</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Moves to what is not known and ideas</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Presents a clear research question</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Presents experiments</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Gives overview of experimental approach</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Uses adequate methods</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Indicates parameters of study (time, dosage, species, gender, n, etc)</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Uses statistical approaches to evaluate outcomes, if necessary</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Explain results obtained from experiments</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Discuss results and significance to field</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Presents future directions</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td><strong>OTHER FEATURES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adheres to policies established by the program</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Correct use of references</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Correct use and presentation of figure/table legends</td>
<td>Y/N</td>
<td></td>
</tr>
</tbody>
</table>

Other comments:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Rubric – Presentation Dissertation Defense

Instructions
Competed forms are to be treated as confidential and are to be turned to the PI, who will turn them to the Assistant/Associate Dean for graduate studies (not to the student) at the conclusion of the defense. A summary copy of the written comments and overall evaluation from the committee members will be provided to the student, the major advisor and the student’s committee members by that same office.

Student Name: ___________________________ Committee Member: ________________
Degree Program: ___________________________ Major Advisor: ___________________

Date of exam: ________________ Proposal Title: _____

<table>
<thead>
<tr>
<th>Oral Dissertation defense</th>
<th>Do not meet expectations</th>
<th>Meet expectations</th>
<th>Exceed Expectations</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of the presentation</td>
<td>o Poorly organized</td>
<td>o Clearly organized</td>
<td>o Very well organized</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Poor presentation</td>
<td>o Clear presentation</td>
<td>o Professional presentation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Poor communication skills</td>
<td>o Good communication skills</td>
<td>o Excellent communication skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Slides difficult to read</td>
<td>o Slides clear to read</td>
<td>o Outstanding slides</td>
<td></td>
</tr>
<tr>
<td>Breadth of knowledge</td>
<td>o Critical weakness in depth of knowledge</td>
<td>o Some depth of knowledge</td>
<td>o Exceptional depth of knowledge</td>
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</tr>
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<td></td>
<td>o Lack of critical thinking skills</td>
<td>o Above average critical thinking skills</td>
<td>o Well develop thinking skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Presentation narrow in scope</td>
<td>o Able to draw from knowledge into several disciplines</td>
<td>o Able to interconnect and extend knowledge to multiple disciplines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Unacceptable topic presentation</td>
<td>o Acceptable topic presentation</td>
<td>o Superior topic presentation</td>
<td></td>
</tr>
<tr>
<td>Quality of response to questions</td>
<td>o Incomplete/require prompting</td>
<td>o Responses complete</td>
<td>o Elloquent responses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Arguments poorly presented</td>
<td>o Arguments well presented</td>
<td>o Arguments skillfully presented</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Lack of knowledge in subject area</td>
<td>o Adequate knowledge in subject area</td>
<td>o Superior knowledge in subject area</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Do not meet level expected for program</td>
<td>o Meet level expected for program</td>
<td>o Exceed level expected for program</td>
<td></td>
</tr>
<tr>
<td>Overall assessment</td>
<td>o Does not meet expectations</td>
<td>o Meets expectations</td>
<td>o Exceed expectations</td>
<td></td>
</tr>
</tbody>
</table>

Other comments: