

# UCONN Physics Department Grad Handbook

## DEPARTMENT STRUCTURE

### Administration

|                         |  |
|-------------------------|--|
| <b>Barrett O. Wells</b> | Department Head<br>Gant South 120C<br><a href="mailto:Barrett.wells@uconn.edu">Barrett.wells@uconn.edu</a>                                 |
| <b>Thomas Blum</b>      | Associate Department Head for Undergraduate Affairs<br>Gant South 413D<br><a href="mailto:Thomas.blum@uconn.edu">Thomas.blum@uconn.edu</a> |
| <b>Niloy Dutta</b>      | Associate Department Head for Graduate Affairs<br>Gant West G44C-1<br><a href="mailto:Niloy.dutta@uconn.edu">Niloy.dutta@uconn.edu</a>     |

### Administrative Staff

|                        |  |
|------------------------|--|
| <b>Micki Bellamy</b>   | Academic Advisor<br>Gant South 120E<br><a href="mailto:Micki.bellamy@uconn.edu">Micki.bellamy@uconn.edu</a><br><br>Monitors graduate student progress; provides support on issues such as course registration, plans of study, prelims, submission of dissertation prospectus, and dissertation defenses.  |
| <b>Carrie Cichocki</b> | Program Assistant<br>Gant South 120G<br><a href="mailto:Carrie.cichocki@uconn.edu">Carrie.cichocki@uconn.edu</a><br><br>Assists with graduate admissions; responsible for Graduate payroll (Teaching Assistantships, Research Assistantships, fellowships and Summer Research Awards; summer payroll shared with Anna). This includes stipend level increases and handling payroll discrepancies working with UConn Payroll Department. Drafts letters of support for I-20 extensions. Assists new grads with the onboarding process including providing payroll information, check distribution, directions, etc. |
| <b>Anna Huang</b>      | Financial Assistant<br>Gant South 120F<br><a href="mailto:Anna.huang@uconn.edu">Anna.huang@uconn.edu</a><br><br>Responsible for: All reimbursements, travel related questions and tasks (booking travel arrangements), making purchases, booking rooms, disbursing announcements, and summer payroll.  |

## Teaching Lab Staff

### **Diego Valente**

Director of Physics Undergraduate Teaching Laboratories  
Assistant Professor in Residence  
Gant South 205  
[Diego.valent@uconn.edu](mailto:Diego.valent@uconn.edu)

Oversees Teaching Laboratory Operations. Responsible for TA assignments and scheduling of laboratory courses each semester. Hires out of department TAs. Ensures TA assignments are within TA workload guidelines as set by the university. Runs the TA Orientation session at the start of each semester and oversees the TA training program. Oversees curriculum and pedagogy development for several introductory lab courses. Provides support and guidance to Graduate TAs in issues involving questions about pedagogy and policy in the introductory laboratory courses and how to handle unique situations with students. Mediates potential situations of conflict between Graduate TAs and lab students. Develops and ensures departmental introductory laboratory course policies are followed by Graduate TAs teaching these courses. Supports Graduate TAs in the investigation and handling of potential plagiarism cases within their laboratory courses. Runs the Marshall Walker Graduate Teaching Assistant award each year.

### **James Jaconetta**

Laboratory Technician  
Gant South 206  
[James.jaconetta@uconn.edu](mailto:James.jaconetta@uconn.edu)

### **Zac Transport**

Laboratory Technician  
Gant South 207  
[zac.transport@uconn.edu](mailto:zac.transport@uconn.edu)

### **Hannah Morill**

Laboratory Technician  
Gant South  
[hannah.morill@uconn.edu](mailto:hannah.morill@uconn.edu)

Responsible for providing lab curriculum and lab technical support for Graduate Teaching Assistants with lab assignments. Other responsibilities include assisting the TA Orientation session at the start of each semester and leading weekly training sessions for course-specific labs. Conducting safety training for graduate TAs throughout the semester and ensuring TAs enforce lab safety guideline requirements with their lab students. Setting up, taking down, and troubleshooting of lab equipment each week. Supporting instructional technology in the labs. Handling of student inquiries outside the scope of the curriculum, such as lab re-schedule requests,

and assisting in the investigation of potential plagiarism of student lab reports. Ensuring standards for final grade submissions at end of semester are met.

## **University Offices**

**Graduate School** <https://grad.uconn.edu/contact/>

Phone: 860-486-3617

**Office of the Bursar** <https://bursar.uconn.edu/>

Phone: 860-486-4830

**Office of the Registrar** <https://registrar.uconn.edu/>

Phone: 860-486-3331

**Connecticut Partnership Plan Health Benefits** <https://hr.uconn.edu/ct-partnership-health-benefits/>

**Counseling and Mental Health Services** <https://counseling.uconn.edu/>

Phone: 860-486-4705

CMHS offers a variety of services, including:

- Community workshops and events
- Consultation drop-in services
- Campus and community referrals
- Individual and group therapy
- Medical evaluations
- Alcohol and other drug services

**Office of Institutional Equity** <https://equity.uconn.edu/title-ix/>

Title IX is a federal law that prohibits discrimination based on the sex (gender) of employees and students of educational institutions that receive federal financial assistance. Title IX's prohibition of sex discrimination includes prohibition of sexual harassment and sexual violence.

The Associate Vice President of the Office of Institutional Equity serves as the Title IX Coordinator. Anyone with questions or concerns can contact the Title IX Coordinator by telephone: 860-486-2943; email [equity@uconn.edu](mailto:equity@uconn.edu); or in person: 241 Glenbrook Road, Unit 4175, Storrs, CT 06269-4175, Wood Hall.

**Center for Students with Disabilities** <https://csd.uconn.edu/>

Phone: 860-486-2020

The mission of the Center for Students with Disabilities (CSD) is to enhance this experience for students with disabilities. The goal of the CSD is to ensure a comprehensively accessible University

experience where individuals with disabilities have the same access to programs, opportunities and activities as all others. The Center is also committed to promoting access and awareness as a resource to all members of the community.

The CSD collaborates with students, faculty, family members and the greater UConn community to ensure a comprehensively accessible environment. They engage in an interactive process with each student and review requests for accommodations on an individualized

### **Helpful Links**

**Registrar FORMS** <https://registrar.uconn.edu/forms/>

**UConn Graduate Employee Union** <https://uconngradunion.org/>  
[uconngradunion@gmail.com](mailto:uconngradunion@gmail.com)

**Graduate Catalog** <https://gradcatalog.uconn.edu/>

*The Graduate Catalog is your constitution and guide in all university matters of policy.*

### Timeline Goals for UConn Physics PhD Students

| Year | Semester       | Typical Courses Post-BS   | Progress Markers   |
|------|----------------|---|--|
|      | Summer         |   | Meet with initial advisor to discuss class choices; Attend UConn Orientation & Training; International students fulfill English certification. |
| 1    | Fall Sem. 1    | PHYS 5101 – Meth of Theoretical Physics<br>PHYS 5201 – Theoretical Mechanics                        | Grad Progress Form   |
|      | Winter         |   | Classical Mechanics Prelim   |
|      | Spring Sem. 2  | PHYS 5301 – Electrodynamics I<br>PHYS 5401 – Quantum Mechanics I                                    | Work with research group(s)  |
|      | Summer         |   | Work with research group(s)<br>E&M Prelim  |
| 2    | Fall Sem. 3    | PHYS 5402 – Quantum Mechanics II<br>PHYS 5500 – Statistical Mechanics                               | Work with research group(s)<br>Plan of Study<br>Grad Progress Form   |
|      | Winter         |   | Stat. Mech Prelim, Quantum Prelim  |
|      | Spring Sem. 4  | PHYS 5302 – Electrodynamics II (required)<br>PHYS 5403 – Quantum III (required)                     | Join research group  |
|      | Summer         |   | Join research group  |
| 3    | Fall Sem. 5    | PHYS 5020 – Physics Research<br>Electives   | Work with research group<br>Grad Progress Form   |
|      | Winter         |   | <b>Last written prelim attempt</b>   |
|      | Spring Sem. 6  | PHYS 5020 – Physics Research<br>Electives   | Work with research group<br>Dissertation Proposal (written & Oral)   |
|      | Summer         |   | Dissertation research  |
| 4    | Fall Sem. 7    | GRAD 6950 Doctoral Dissertation Research<br>Electives   | Dissertation research<br>Grad Progress Form  |
|      | Winter         |   | Dissertation research  |
|      | Spring Sem. 8  | GRAD 6950 Doctoral Dissertation Research<br>Electives   | Dissertation research  |
|      | Summer         |   | Dissertation research  |
| 5    | Fall Sem. 9    | GRAD 6950 Doctoral Dissertation Research  | Dissertation research<br>Grad Progress Form  |
|      | Winter         |   | Dissertation research  |
|      | Spring Sem. 10 | GRAD 6950 Doctoral Dissertation Research  | Dissertation research  |
|      | Summer         |   | Oral Defense of Dissertation   |
| 6    |                | If necessary, same academic program as outlined above in year 5; must apply for TA funds if needed. |  |

## PhD Course Requirements

Students entering the PhD program must complete at least 30 credits of content coursework beyond the bachelor's degree, or at least 15 credits of content coursework beyond the master's degree. PHYS 5302 (Electrodynamics II) and PHYS 5403 (Quantum Mechanics III) are required; the remaining credits are determined by the student's Advisory Committee. A minimum of 15 credits of GRAD 6950 (Doctoral Dissertation Research) is also required.

## Progress Reports

Each year Physics Department graduate students, together with their advisor, are required to fill out and submit the Graduate Student Annual Progress Report. The purpose of the form is to assist both the faculty and graduate students in monitoring degree progress and making clear future plans.

The procedure for completing the progress report is intended to be a conversation between the student and advisor. The process begins in the fall with the department sending the Progress Report Template and directions via email to all physics graduate students. The report is cumulative, with updates added each year.

1. The process begins with the graduate student. Each graduate student must update sections 1 through 4 of the progress report form and send it to their advisor of record by **November 15<sup>th</sup>**.
2. By **December 1<sup>st</sup>** each graduate student's advisor of record must update section 5 of this form and send it back to the student.
3. The student and advisor must arrange a meeting to discuss the contents of the form as soon as possible thereafter, and no later than **January 31<sup>st</sup>**.
4. After this review meeting, student and advisor should make edits to their sections as necessary. Include results of January Prelim exams, if relevant. **The advisor should then submit the form via email to the Physics Department Head's office (send to Micki) by January 31<sup>st</sup>**, with the email copied to the student and the student's associate advisors, if any.
5. By **March 1<sup>st</sup>** each associate advisor must review the completed form and e-mail the Physics Department Head's office indicating that they have read the form and whether they approve or disapprove of the contents. This is also a good opportunity for the associate advisors to arrange a meeting with the student.

The forms will be reviewed by the department head and the associate department head for graduate affairs. If progress milestones are not met, or if any of the advisors or student do not approve of the form's contents, the department head and the associate department head for graduate affairs will meet with the student and/or advisors to discuss the student's progress to their degree.

## General Examination

Students are required to pass a General Examination (preliminary examination), which consists of four written exams on core physics subjects.

**Classical Mechanics** (recommended preparation: PHYS 5201)

**Electrodynamics** (recommended preparation: PHYS 5301)

**Quantum Mechanics** (recommended preparation: PHYS 5401 and PHYS 5402)

**Statistical Mechanics** (recommended preparation: PHYS 5500).

All PhD students are strongly encouraged to pass these exams as early as is consistent with their coursework preparation, and normally before the start of their third year. Students are permitted one more attempt beyond their second year, but all four written preliminary exams must be passed prior to the beginning of the sixth semester in the program. There is no penalty for a failed early attempt. A student moves to stipend level 3 when all four Prelims have been passed.

Beginning at the end of the Fall 2020 semester, the final examinations that are given at the end of the CM, SM and QMII core courses are to serve as both course final and prelim combined. For prelim purposes you would only need to take the final examination (which will serve as the prelim for that subject). While the prelim committee will assign grades for each prelim exam, each instructor will independently assign grades for the courses themselves.

Since each of our core courses only go out once a year, a prelim exam will also be offered in the off semester for any subject for which there is no course being offered that semester. Thus at the end of Fall 2020 there will be prelim course finals combined for CM, SM and QMII, and a separate prelim for EM. At the end of Spring 2021 there will be a prelim course final combined for EM, and separate prelims for CM, SM and QM. Also QMI will be taught that semester with only a course exam.

## Plan of Study

Doctoral Plans of Study must be submitted to the Graduate School no later than when 18 credits of coursework have been completed (during a student's third semester). The fillable pdf form can be found on the Office of the Registrar's webpage, under Forms <https://registrar.uconn.edu/forms/>

Things to keep in mind when filling out your Plan of Study:

1. The "Field of Study" is Physics; there is no "Area of Concentration."
2. Listing your coursework – the Plan of Study is a PLAN; it includes the coursework you have completed, as well as the coursework you will complete to satisfy your degree requirements.
3. Degree requirements include:
  - a. For post-bachelor's degree 30 credits of graduate level content coursework (credits that do not have a GRAD designation); for post-MS 15 credits.
  - b. PHYS 5302 (E&M II) and PHYS 5403 (QM III).



- c. At least 15 credits of GRAD 6950 (maximum of 9 credits per semester).
4. Physics has no foreign language requirement, and no relateds requirement.
5. The Plan of Study is a PLAN and subject to change. After it has been submitted and approved, changes can be made with the Request for Changes in Plan of Study form (for example changing an Associate Advisor, or coursework).

### **Dissertation Proposal**

By the end of their third year, all PhD students must have an Advisory Committee and must complete their Dissertation Proposal (details and form at the Graduate School website): the written proposal must be approved by the student's Advisory Committee, including an oral defense of the proposal before a committee composed of their Advisory Committee and two additional Faculty examiners. The fillable pdf form can be found on the Office of the Registrar's webpage, under Forms <https://registrar.uconn.edu/forms/>

### **Dissertation Defense**

Information regarding preparing for your defense can be found at <https://registrar.uconn.edu/doctoral-degree-programs/dissertation-information/>

Some important Points:

Your defense committee requires five members: your advisory committee plus two additional faculty. Begin coordinating date/time/faculty members as soon as possible.

**Two weeks prior to your defense date** there are three things you need to do for the Graduate School:

1. Announce your oral defense in the **University Events Calendar** at least two weeks before the date of your defense.
2. Submit a completed **Dissertation Tentative Approval Page** to the Office of the Registrar [degreeaudit@uconn.edu](mailto:degreeaudit@uconn.edu) *at least two weeks prior* to the date of your oral defense. The form is located on the home page of the Office of the Registrar's website under **Forms**.
3. **Email** [degreeaudit@uconn.edu](mailto:degreeaudit@uconn.edu) the working copy of your dissertation to the Office of the Registrar, copying each Advisory Committee member *at least two weeks* prior to the date of the oral defense.

**One week prior to your defense date** there are two things you need to do for the Physics Department:

1. Email your committee and remind them about your defense date and time (*if you don't... they might not show up*).
2. Email your abstract, the date, time and location of your defense to Anna Huang [anna.huang@uconn.edu](mailto:anna.huang@uconn.edu) and ask her to send out your defense announcement to the department via the email distribution list.

Bring two copies of your Exam Report to the defense <https://registrar.uconn.edu/wp-content/uploads/sites/1604/2017/08/Report-on-Final-Exam-Doctoral.pdf> and the Approval Page of your dissertation printed on standard 8.5 x 11 inch white paper.

### **After The Defense:**

Review the Dissertation Submission Checklist <https://registrar.uconn.edu/wp-content/uploads/sites/1604/2017/10/Dissertation-Submission-Checklist.pdf>

Complete Survey of Earned Doctorates <https://sed-ncses.org/login.aspx?redirect=true>

Submit ONE electronic copy of your dissertation to **Open Commons**. Follow the instructions found in the Submission Guidelines link of the Author Corner.

### **Financial Support Opportunities**

#### **Teaching assistantship (TA):** (duties: up to 20 hours per week)

Criteria: academic merit, progress towards degree, competence as teacher; English language certification is required for international students). Students must be in good academic standing with a GPA of 3.0 or higher, and must be making satisfactory progress towards their degree.

In order to be considered for TA support after the first year in the graduate program, international graduate students must obtain certification of English proficiency according to the UConn International Teaching Assistant Program). Only in exceptional circumstances will TA support be given beyond the first year if these tests have not been passed.

Teaching Assistantships: 5 year limit. In applying for TA financial aid from the Physics Department beyond the first 5 years, students must document progress towards their degree and present a concrete proposal for a timely completion of their degree.

**Research assistantship (RA):** students may obtain research assistantships directly from individual Faculty Principal Investigators, usually their Major Advisor.

Students are strongly encouraged to pursue such research opportunities as early as possible during their degree.

Levels of compensation for TA's and RA's: these pay levels take effect in the semester immediately following the student's achieved new academic level: Tier I: Beginning student with BS; Tier II: MS or equivalent; Tier III: Passed general (prelim) exams.

## Stipend Levels

**Level 1** For graduate assistants with at least a bachelor's degree.

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**Level 2** For experienced graduate assistants in a doctoral program with at least a master's degree or its equivalent in the field of graduate study. Equivalency consists of 30 credits of appropriate coursework beyond the bachelor's degree completed at the University of Connecticut, together with admission to a doctoral program.

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**Level 3** For students with experience as graduate assistants who have at least a master's degree or its equivalent **AND** who have passed the doctoral general examination.

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## TA Responsibilities and Expectations:

It is an exciting opportunity to be able to impart to other students some of the knowledge in physics you've acquired throughout the years! Not only is teaching a critical mission of our department, this is a unique step in your professional development that may play an important role in your future career steps.

As a teaching assistant in the Department of Physics at the University of Connecticut, you are expected to carry yourself with professionalism in how you prepare for the courses you teach and in your interactions with students, faculty, and staff alike.

We do understand that balancing your multiple roles as a student, researcher, and TA can be difficult, and we are here to help you navigate issues like these. If you have any questions about the responsibilities listed here, or ever feel that you are being asked to do more than what is required of you as a teaching assistant, do not hesitate to speak with Diego Valente or a different member of the Teaching Labs team about your concerns.

As a Graduate Teaching Assistant, your responsibilities may include, but not be limited to, the list below. The exact scope of what you may be asked to do will depend on your assigned course and instructor, so don't hesitate to ask questions if you are unsure about your responsibilities!

- Preparing and presenting introductory lab material and/or tutorial activities
- Preparing and conducting laboratory activities and/or demonstrations in lab or classroom
- Attending lectures and supporting instructors by running group activities and fostering group discussions
- Attending weekly TA training sessions and TA orientation session at the beginning of the semester
- Checking equipment before and after a lab and helping maintain the lab room tidy for the next class
- Following and enforcing safe lab practices
- Creating and reviewing solution sets for homework and quizzes
- Writing and reviewing quiz questions
- Holding review sessions
- Maintaining office hours regularly as determined by course instructor or Teaching Labs staff
- Checking UConn email account daily for important communications with students, faculty, and staff
- Acting as a liaison between students and teaching lab staff/course instructors

- Proctoring exams
- Grading laboratory material, homework sets, tutorial problems, quizzes, and/or exams, as assigned
- Maintaining accurate, complete updated gradebook
- Assisting instructor in managing online grading system
- Coordinating final grade submission with instructors
- Preparing and posting laboratory syllabus on HuskyCT
- Using rubrics and online commenting in HuskyCT

### **Departmental and Graduate School Fellowships:**

1. Pre-doctoral fellowships (criteria: merit, progress; usually for beginning students)
2. Graduate School Fellowships: Giolas-Harriott Fellowship, Crandall-Cordero Fellowship, Outstanding Scholars Program, Next Generation Connecticut Scholars Program.
3. Departmental Research Fellowship Awards. Merit-based awards from departmental endowments (Blonder, Frisius, Haller, Klemens, Nagavarapu, Pollack, Smith). Awarded to incoming students for summer research. Damon Award for more advanced experimental students.
4. Summer fellowships are generally available for beginning students preparing for written part of General Examination.
5. Summer school teaching assistantships are available.
6. Grad School Dissertation fellowship: completion of general exam (prelims) and approved dissertation proposal is required. Applications twice yearly: May and November.
7. Travel: After at least 30 credits, students are eligible to apply for a \$1000 travel award from the Graduate School.
8. Advanced students may apply for the Teaching Mentoring program, to gain experience teaching a one semester course.

### **External Fellowships:**

When Graduate Students receive outside fellowship awards, they need to contact the Graduate School ASAP to request funding for their tuition and inclusion on medical (coverage parallel to what they would have received as a GA).

Contact: Lisa Gorman [lisa.gorman@uconn.edu](mailto:lisa.gorman@uconn.edu)

Register for 9 credits of GRAD 6950 to maintain full-time status.

**Please see:**

#### **Policy on Competitive Federal Graduate Fellowship Awards**

<https://policy.uconn.edu/2011/05/31/policy-on-competitive-federal-graduate-awards/>

## **Policy on Competitive Non-Federal Graduate Fellowship Awards**

<https://policy.uconn.edu/2012/09/05/policy-on-non-federal-fellowship-awards/>

## **Additional Resources**

### **TEACHING**

**Graduate Certificate in College Instruction** <https://gcci.uconn.edu/>

The Graduate Certificate in College Instruction (GCCI) is a 9-credit program for individuals interested in deepening their theoretical and practical understanding of college teaching. This certificate program is intended to provide graduate students with a significant credential on their transcripts in the area of instructional understanding and competence. Applications are accepted twice a year: on November 15th for spring entrance and April 1 for fall entrance.

**The Center for Excellence in Teaching and Learning** <https://cetl.uconn.edu/>

The Center for Excellence in Teaching and Learning is dedicated to the support and advancement of best practices in teaching and learning at the University of Connecticut.

**The Institute for Teaching and Learning has a Guidebook for Teaching Assistants**

[https://production.wordpress.uconn.edu/tapwp/wp-content/uploads/sites/603/2014/03/TA\\_GuidebookRev5\\_11.pdf](https://production.wordpress.uconn.edu/tapwp/wp-content/uploads/sites/603/2014/03/TA_GuidebookRev5_11.pdf)

