



UNIVERSITY OF CENTRAL FLORIDA

Optics and Photonics MS Graduate Program Handbook

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Optics and Photonics MS

Together, the [Graduate Student Handbook](#) and your graduate program handbook should serve as your main guide throughout your graduate career. The Graduate Student Handbook includes university information, policies, requirements and guidance for all graduate students. Your program handbook describes the details about graduate study and requirements in your specific program. While both of these handbooks are wonderful resources, know that you are always welcome to talk with faculty and staff in your program and in the Graduate College.

The central activities and missions of a university rest upon the fundamental assumption that all members of the university community conduct themselves in accordance with a strict adherence to academic and scholarly integrity. As a graduate student and member of the university community, you are expected to display the highest standards of academic and personal integrity.

Here are some resources to help you better understand your responsibilities:

- [Academic Honesty](#)
- [Academic Integrity Training](#) - Open to all graduate students at no cost
- [Plagiarism](#)

Introduction

The Optics and Photonics MS program requires a minimum of 30 credit hours beyond the bachelor's degree. The program offers a thesis and non-thesis option. Students are allowed considerable freedom in planning their study programs, although some foundation Optics courses are strongly recommended as core courses and two research methods/laboratory courses are required.

Independent Learning

All students must take a minimum of two graduate methodology/laboratory courses in Optics or a closely related field that include experiments, research and laboratory reports. Non-thesis students may also engage in directed research or research report. Thesis students enroll in 6 hours of thesis credits during the completion of their research study.

Advising and Mentoring

Before beginning their second year of full-time study, students pursuing the thesis option are required to select a thesis advisor. Students pursuing the non-thesis option are not required to select an advisor, although it is strongly encouraged if expecting to pursue the Optics and Photonics PhD later. The thesis advisor must be selected from the college list of approved graduate faculty and must be qualified to serve as chair of a thesis committee. The Associate Dean will serve as academic advisor for students pursuing the non-thesis option.

Plan of Study

A Plan of Study (POS) is a listing of course work agreed to by the student and the degree program specifying course degree requirements. A specific Plan of Study, which will vary from student to student, must be formulated jointly by the student and their thesis advisor. Non-thesis students will form their Plan of Study with the Associate Dean. The completed Plan of Study must comply with the graduate catalog current at the time it is proposed. Once completed, the Plan of Study must be approved by the thesis advisor and/or the Associate Dean prior to the

second term of full-time enrollment. For a graduate student carrying a reduced load, the establishment of a Plan of Study may be delayed up to the registration for the tenth graduate semester hour. The student may make changes in the Plan of Study at any time with approval of the thesis advisor and/or the Associate Dean.

Students requesting to transfer credits from a previous institution must note those classes on the Plan of Study. Additionally, students are required to provide the appropriate documentation for transferring credits at the time of submitting the Plan of Study (See Frequently Cited Policies section). Requests to transfer credits without the appropriate documentation will be denied.

As described in section 5 below, the MS degree requires 30 graduate credit hours according to the requirements below.

Thesis Option Plan of Study must be comprised of:

- At least 24 hours of graduate science and engineering course work, satisfying all of the following requirements:
 - at least 12 hours must be Optics courses
 - at least 6 hours are science/engineering graduate laboratory courses,
 - at least 3 of the laboratory hours must be in Optics
- 6 hours of thesis (OSE 6971)
- No Research hours or Directed Research may be applied to the Master's Thesis plan of study.

Non-thesis Plan of Study must be comprised of:

No more than 3 hours of directed research (OSE 6918), or Research report (OSE 6909) may be included in the program of study.

- At least 30 hours of graduate science and engineering course work, satisfying all of the following requirements:
 - at least 18 hours must be Optics courses
 - at least 6 hours are science/engineering graduate laboratory courses,
 - at least 3 of the laboratory hours must be in Optics

No more than 3 hours of directed research (OSE 6918), or Research report (OSE 6909) may be included in the plan of study.

Curriculum

Please visit the [Graduate Catalog](#) to see the current curriculum for our program.

Timeline for Completion

There is not a specific timeline for students enrolled into the MS in Optics and Photonics program. However, the MS program is designed to span three semesters or one full year. The total credit hour requirement for the program is thirty hours, which must be charted out and approved using the Plan of Study form (see Plan of Study section).

Other

Please visit the [Courses webpage](#) on the [College of Optics and Photonics website](#) for a course timetable, schedule by course, schedule by instructor and schedule by semester.

Examination Requirements

Comprehensive Examination

An oral master's comprehensive examination, based on the core courses (OSE 5115 Interference, Diffraction & Coherence, OSE 6111 Optical Wave Propagation, and OSE 6525 Laser Engineering) must be passed as a graduation requirement for the MS degree in Optics and Photonics. Students will be required to take this exam within one semester after completing the core courses.

The exam may be taken twice.

This Comprehensive Examination requirement may be satisfied by passing the Optics and Photonics Ph.D. Qualifying exam.

Students should form their Thesis Advisory Committee prior to scheduling their thesis defense.

Thesis Oral Defense Examination

The thesis is a culmination of research conducted while enrolled in the Optics and Photonics MS program. Thesis topics are decided upon jointly by the student and thesis advisor. The format of a thesis consists of an introduction and literature review, details of the study, and results and conclusions. Since the work is original, it is very important that care is taken in properly citing ideas and quotations of others.

An oral defense of the thesis is required. The approved thesis must be written and prepared in accordance with the College of Optics and Photonics and university graduate policies. Students are required to announce the date of thesis defense at least two weeks prior to the scheduled date. Before submitting a thesis announcement, students are required to have all the necessary details set (room reservation and time). Thesis announcements absent of room reservations or time spans will be denied. Once the defense is over, students are required to submit the Thesis Approval form to notify the college of the outcome of the defense.

The UCF Thesis and Dissertation Manual describes formatting requirements for theses and outlines the steps that graduate students must follow in order to submit their theses electronically to UCF Graduate Studies. See the University Thesis Requirements section below for details.

Exit Interview

Prior to commencement, students must complete an exit interview with the Dean and/or the Associate Dean. This provides the student with an opportunity to inform the college about his/her experience in the graduate program. Students who continue in the PhD program are exempted from this requirement.

Thesis Requirements

University Dissertation Requirements

The College of Graduate Studies [Thesis and Dissertation page](#) contains information on the university's requirements for dissertation formatting, format review, defenses, final submission, and more. A step-by-step completion guide is also available on [Thesis and Dissertation Services](#) Site.

All university deadlines are listed in the [Academic Calendar](#). Your program or college may have other earlier deadlines; please check with your program and college staff for additional deadlines.

The following requirements must be met by dissertation students in their final term:

- Submit a properly formatted file for initial format review by the format review deadline
- Submit the Thesis and Dissertation Release Option form well before the defense
- Defend by the defense deadline
- Receive format approval (if not granted upon initial review)
- Submit signed approval form by final submission deadline
- Submit final dissertation document by final submission deadline

Students must format their dissertation according to the standards outlined in [Thesis and Dissertation Webcourse](#). Formatting questions or issues can be submitted to the Format Help page in the [Thesis and Dissertation Services](#) site. Format reviews and final submission must be completed in the [Thesis and Dissertation Services](#) site. The Dissertation Approval Form is also available in the Thesis and Dissertation Services site.

The College of Graduate Studies offers several thesis and dissertation [Workshops](#) each term. Students are highly encouraged to attend these workshops early in the dissertation process to fully understand the above policies and procedures.

The College of Graduate Studies thesis and dissertation office is best reached by email at editor@ucf.edu.

Thesis advisory committee membership

The Thesis Advisory Committee will consist of a minimum of three College of Optics faculty members who hold a full or primary joint appointment in the college. External committees are permitted, by approval of the Associate Dean, and conditional that the majority of membership is comprised of College of Optics faculty. If the external member is a UCF faculty member, he or she must be a full or associate member of the graduate faculty in his or her own program. If the external member is from outside the university, they must be approved as a graduate faculty scholar to serve by the College of Optics and Photonics curriculum committee and the UCF College of Graduate Studies. The graduate college maintains a list of graduate faculty on their website, however, just because a person is listed as a Graduate Faculty Scholar does not automatically qualify him/her to serve on any committee. Such approvals are specific to each thesis. Further questions on the composition of thesis advisory committees can be answered by the Associate Dean.

Prior to enrolling in thesis hours, these members must be identified and approved by filling out the Thesis committee form and submitting this to the college for subsequent university approval. Please allow at least two weeks for this process before attempting to enroll in thesis hours

Thesis Progress

Students are expected to successfully progress in their thesis research each year. Upon admittance into the masters program, students are held to a deadline of seven years to graduate before completed courses are considered outdated and removed off the GPS degree audit. In order to ensure students are continuously working on their thesis, it is required that once enrolling in thesis hours (6971) the student must continuously enroll (including summers) in thesis hours until actual defense. For more information on the before mentioned policies, please reference the current catalog.

Graduate Research

For information on research in the discipline including a list of research areas, groups, laboratories and publications visit the [Research webpage](#) on the [College of Optics and Photonics website](#).

As a graduate college for optical science and engineering education and research, the research activities of COP faculty span the spectrum from basic science to prototype development. Additionally, the faculty vigorously

pursue joint research projects with industry, academia, and government laboratories. The main facilities of the COP are housed in a state-of-the-art 96,000 ft building dedicated to optics and photonics research and education.

The COP faculty collaborate closely with other UCF research units, including the Center for Nanoscience and Technology, the Burnett School of Biomedical Sciences, the Advanced Materials Processing and Analysis Center (AMPAC), the Institute for Simulation and Training (IST), and the Florida Solar Energy Center. Several COP faculty hold joint appointments in these and other UCF departments, which facilitates access to the outstanding facilities in these units and encourages interdisciplinary research.

Research Policies and Student Responsibility

Research is an integral part of the college and its graduate programs. Masters students can be funded as research assistants at the discretion of their thesis advisors depending on the availability of funds. Provided that a research assistantship is awarded, a tuition waiver may also be granted.

Students are expected to take an active role in the laboratory and in the classroom, thereby taking full advantage of the college's outstanding facilities. However, before beginning their work as a research assistant, students have the responsibility to familiarize themselves with the university's policies governing research as detailed on the UCF Research and Commercialization and the Office of Graduate Studies websites.

As graduate students employed by or attending the university, each action, whether bearing positive or negative results, is a reflection of not only that student but of the university. Therefore, students who commit research ethics violations, Golden Rule violations, or do not meet their thesis advisor's expectations may lose financial support. In serious cases, students may face possible removal from their graduate program and potential referral to the Office of Student Conduct for university disqualification. If a student is removed from the graduate program or university, an appeal process can be initiated by the student (See Graduate Academic Grievance Procedure in the Frequently Cited Policies section).

Patent and Invention Policy

UCF has three fundamental responsibilities with regard to graduate student research. They are to (1) support an academic environment that stimulates the spirit of inquiry, (2) develop the intellectual property stemming from research, and to (3) disseminate the intellectual property to the general public. UCF owns the intellectual property developed using university resources. For further information on UCF's Patent and Invention policies, students are encouraged to reference the current graduate catalog.

Financial Support

For information on fellowships available for graduate students in Optics and Photonics visit the [Fellowships webpage](#) of the [College of Optics and Photonics website](#).

The College of Optics and Photonics works to provide students the opportunity to fully engage themselves in research education. However, master's students are typically not funded unless granted a research assistantship by a faculty member. Provided that an assistantship is awarded, tuition waiver dollars may also be made available to cover partial tuition expenses. Master's students in need of financial aid are strongly encouraged to seek out openings in faculty laboratories. In the event that a student cannot obtain a research assistantship, students can request financial aid through forms managed by the UCF Financial Aid Office. Students granted research assistantships should familiarize themselves with the following requirements governing employment legibility.

- Students must meet the expectations of the faculty (employer) in order to maintain funding. If, at any time, students do not meet the expectations of their employer, funding can be canceled.

- Students must maintain good academic standing with a graduate GPA of 3.0 or higher each term. If a student's term or program GPA falls below 3.0, funding will not be available until the student's status returns to good academic standing (GPA of at least 3.0).
- University financial resources are to be used to support full-time, degree-seeking graduate students who maintain good academic progress. Therefore, students not enrolled full-time and/or in a probationary status due to a low GPA are not eligible for funding.

Graduate Student Associations

Optics Student Organizations:

- [CREOL Association of Optics Students \(CAOS\)](#)
- [International Society for Optical Engineering](#)
- [Optical Society of America Student Chapter](#)
- [The Institute of Electrical and Electronic Engineers](#)

Professional Development

As students progress in their academic career, the University of Central Florida also provides many opportunities for professional development. The following is a listing of several organizations offering outstanding development opportunities.

Career Services and Experiential Learning Center

- **Career Expo**
Held in the fall and spring, this event provides the opportunity for employers to discuss internship, career, and employment opportunities with University of Central Florida students and alumni.
- **Internship Job Fair**
Provides the opportunity for employers to discuss internship, career, and employment opportunities with University of Central Florida students and alumni through the Internship Fair and Spring Career Expo.
- **Statewide Job Fair**
Joint effort from all Florida universities to provide the opportunity to Florida students to meet with employers and discuss internship, career, and employment opportunities.
- **Employment Prep Fair**
Held prior to each Career Expo, this event provides students with the opportunity to meet with employers to learn more about job search techniques, resumes, interviewing, and negotiating job offers. Employers are available to critique resumes and offer practice interviews. This event is designed to better prepare students for success at Career Expo.
- **Externship Information Sessions**
Provide students with information on how to participate in winter and spring externships. The Externship Program offers students the opportunity to shadow an employer in their professional area of interest to learn more about the career field as well as the organizations culture, products, and services.
- **Career Panels**
Provide students with opportunities to hear employers talk about potential careers and jobs relative to their majors. These employer panels are ideal for anyone considering a major or already declared in a major relevant to the panel's professional field.

Pathways to Success Workshops

Coordinated by the College of Graduate Studies, the Pathways to Success program offers free development opportunities for graduate students including workshops in Academic Integrity, Graduate Grantsmanship, Graduate Teaching, Personal Development, Professional Development, and Research. For more information and how to register, please visit graduate.ucf.edu/pathways-to-success/.

Graduate Research Forum

Sponsored by the College of Graduate Studies the [Graduate Research Forum](#) is an opportunity for students to showcase their research and creative projects and to receive valuable feedback from faculty judges. Awards for best poster and best oral presentation in each category will be given and all participants will receive recognition. The Research Forum is usually held in the spring semester. Students may contact the college or the College of Graduate Studies for more information.

Graduate Student Association

The Graduate Student Association (GSA) is UCF's graduate organization committed to enrich graduate students' personal, educational and professional experience. To learn more or get involved, please visit facebook.com/SGAUCF/.

Job Search

Career Services

UCF's Career Services department offers a wide range of programs and services designed to assist graduate students. These services include evaluation and exploration of career goals, preparation for the job search and job search resources. To learn more, visit their website at career.ucf.edu/.

Forms

- [College of Graduate Studies Forms and References](#)
A complete listing of general forms and references for graduate students, with direct links, may be found here.
- [Graduate Petition Form](#)
When unusual situations arise, petitions for exceptions to policy may be requested by the student. Depending on the type of appeal, the student should contact his/her program adviser to begin the petition process.
- [Traveling Scholar Form](#)
If a student would like to take advantage of special resources available on another campus but not available on the home campus; for example, special course offerings, research opportunities, unique laboratories and library collections, this form must be completed and approved.

Useful Links

- [Program Website](#)
- [College of Optics and Photonics Website](#)
- [College of Graduate Studies](#)
- [Academic Calendar](#)
- [Bookstore](#)
- [Campus Map](#)

- [Counseling Center](#)
- [Financial Assistance](#)
- [Golden Rule Student Handbook](#)
- [Graduate Catalog](#)
- [Graduate Student Association](#)
- [Graduate Student Center](#)
- [Housing and Residence Life](#)
- [Housing, off campus](#)
- [Knights Email](#)
- [Library](#)
- [NID Help](#)
- [Pathways to Success](#)
- [Recreation and Wellness Center](#)
- [Shuttles Parking Services](#)
- [Student Health Services](#)
- [Thesis and Dissertation \(ETD\)](#)
- [UCF Global](#)
- [University Writing Center](#)

Grad Faculty

Asterisk = has previous committee experience, which qualifies the person to serve as vice chair

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College: College of Optics and Photonics

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Research interests: Photonics, Optical Materials, Microscopy

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Disciplinary affiliations: Biological Sciences

Research interests: Optical and Electronic Materials, Surface Chemistry, Nanotechnology, Micro- and Nano-scale Fabrication, Multi-photon Direct Laser Writing, Solar Energy Materials and Devices, Optical Beam Shaping

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