

**Chester F. Carlson Center for Imaging Science
Undergraduate Student Handbook
2023-2024**

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Introduction

The purpose of this document is to provide a centralized resource for information related to the undergraduate program in Imaging Science. The following sections detail the academic program, experiential learning opportunities, financial aid and scholarship information, academic advising and support services, and university policies and procedures.

Program Requirements

Typical course of study

The undergraduate program in Imaging Science leads to the Bachelor of Science degree. A typical four-year course of study is listed at the link below. Program requirements are specific to a particular year-of-entry. Students should consult with their academic advisor to understand the requirements that apply to their year-of-entry.

[Imaging Science B.S. Curriculum](#)

Senior project

Students in the program are required to complete a senior project, which is an independent research project in the field of imaging science conducted with the mentorship of a CIS, or CIS-related faculty member. Answers to frequently asked questions about the senior project are available at the link below.

[Senior Project FAQ](#)

Double Majors, Minors, and Immersion

Double majors

Double majors are possible with many other programs at RIT. Some examples of complementary programs include:

- Motion Picture Science
- Photographic Sciences
- Physics
- Mathematics
- Applied Mathematics
- Computational Mathematics
- Computer Science
- Computer Engineering
- Industrial Engineering
- Management Information Systems
- Psychology
- Biomedical Sciences

If you are interested in one of these double major combinations, or would like to formulate your own double major, please contact the [Undergraduate Program Coordinator](#).

Minors

[Imaging Science Minor](#)

This minor provides opportunity for study of the principles of Imaging Science, enabling students to build a secondary area of expertise in support of their major program of study or other areas of interest. More information on the Minor in Imaging Science is available at the link above or by contacting the [Undergraduate Program Coordinator](#).

[Optical Science Minor](#)

This interdisciplinary minor offered jointly by the Chester F. Carlson Center for Imaging Science and the School of Physics and Astronomy provides students with knowledge of a broad set of principles and technologies for understanding and exploiting the properties of light. More information on the Minor in Optical Science is available at the link above or by contacting the [Undergraduate Program Coordinator](#).

Immersion

[Science of Film, Photography and Imaging Immersion](#)

The Science of Film, Photography, and Imaging Immersion explores the basic science behind technologies used in film, photography and other imaging applications. Introductions to human visual perception, color science, imaging physics, and imaging system engineering set a groundwork for common theories underlying all major imaging industries. This immersion also

provides the necessary pre-requisites for completing a minor in Imaging Science. More information on the Minor in Imaging Science is available at the link above or by contacting the [Undergraduate Program Coordinator](#).

Experiential Learning Opportunities

In addition to coursework, the Imaging Science program and the university provide a range of experiential learning opportunities for students.

Undergraduate research

The Center for Imaging Science is currently the home of 11 active research groups with a diverse collection of laboratories that are supported by millions of dollars of sponsored funding. These projects provide a rich environment for students to engage in experiential learning through research. For more information contact individual Center faculty or the [Undergraduate Program Coordinator](#).

Co-ops/internships/research experience for undergraduates (REU)

Because of the connections that the CIS research labs have with external funding agencies and collaborators, our students are well known throughout the federal government, the imaging industry, and at other academic institutions. Consequently, many are uniquely prepared to compete favorably for co-op, internship, and REU opportunities. For more information contact the [Undergraduate Program Coordinator](#) and/or the [Office of Career Services and Co-operative Education](#).

Study abroad

The RIT study abroad program provides students with the unique opportunity to enrich their academic studies with an immersive experience in another culture. While a small percentage of Imaging Science students take advantage of this program, those who have will attest to its value as an important element of our experiential learning program. For more information contact the study abroad program at [RIT Global](#).

Student-initiated projects

Each year CIS devotes resources to support informal experiential learning opportunities which are initiated by the students. These activities, which fall outside of any formal coursework or thesis/dissertation research, typically involve the development of cutting-edge imaging systems or technologies that are not readily available in the Center. Students compete for the resources to pursue these projects through a CIS-wide call for proposals. Those which are chosen for funding are given one year to complete their work, and are required to write a final report on the project at the end of the effort. For more information contact the [CIS Director](#).

Financial Aid and Scholarships

RIT's [Office of Financial Aid & Scholarships](#) is dedicated to helping students and their families identify sources of financial aid and scholarships. In addition, there are several scholarships available only to students majoring in Imaging Science. These are

The Carlson Scholarship in Imaging Science

Incoming freshmen who request financial aid are automatically considered for a need-based Carlson Scholarship. Those receiving the scholarship will have it automatically renewed annually as long as they remain in good academic standing. Students already in the Imaging Science program can also apply for a merit-based Carlson Scholarship. Scholarships are awarded on the basis of merit to students who will be entering at least their second year of studies. Instructions for applying for this scholarship are distributed by e-mail each January. Awards are typically announced by April. These scholarships are good for one year, but students may re-apply each year regardless of whether they have received a Carlson scholarship in the past.

The Jerry G. Hughes Memorial Scholarship

This scholarship is given to one student who is a current Imaging Science major entering at least their second year of studies. The award is made on the basis of both need and merit. Students who apply for the annual Carlson Scholarship are automatically considered for the Hughes Scholarship.

John Wiley Jones Award for Outstanding Students in Science

This is a College of Science award for students who are in the third year of their academic program. One Imaging Science student is selected by the CIS faculty for this award each year.

Academic Advising and Support Services

Academic Advising

Each student in the Imaging Science program is assigned an academic advisor who works with them to facilitate and ensure progress through the program. The advisor meets with each student on a regular basis to help with course selection and enrollment, provide guidance on academic requirements, and direct the student to support services at RIT. Contact information for the Imaging Science academic advisor is listed in the "Contacts" section at the end of this document. More information is also available through the [College of Science Academic Advising Office](#).

Support Services

In addition to academic advising, RIT offers a range of academic and personal support services. More information is available from the [Academic Support Services](#) and [Health Resources](#) groups within the [Division of Student Affairs](#).

RIT Policies and Procedures

To provide for the general welfare, RIT has established a set of [policies](#) to govern the activities of the university and the members of its community. Of particular interest to students in the Imaging Science program are the subset of [student policies](#) related to academic concerns and personal conduct.

Students in the Imaging Science program should familiarize themselves with policies [P03.0 Honor Code](#), [D08.0 Student Academic Integrity](#), and [C02.0 Misconduct in Research and Scholarship](#) and understand that they are bound by these policies and subject to action in the event of infractions.

The [Ombuds Office](#) provides impartial, independent, confidential and informal conflict resolution resources for members of the RIT community.

Alternative Paths to Matriculation

Change-of-program students

The Imaging Science program welcomes Change-of-Program (CoP) students from other programs at RIT. To assure student success, before admission to the program, CoP students are required to do a "transition semester", where in consultation with the Undergraduate Program Coordinator, they develop a full-time schedule that includes at least three designated courses within the Imaging Science program. Students are required to achieve grades of B or better in these courses with no Ws, Fs, or Is in their other coursework. If Change-of-Program students successful meet these requirements, they will be admitted to the program in the following term. For more information on the Change-of Program process to Imaging Science please contact the [Undergraduate Program Coordinator](#).

Transfer students

The Imaging Science program welcomes transfer students from other institutions. For information on transfer admission to the program please contact the [Undergraduate Program Coordinator](#).

MCC/RIT 2+2 program

In coordination with the [Optical Systems Technology \(OST\)](#) program at [Monroe Community College \(MCC\)](#), the RIT's Imaging Science program has devised a four year program-of-study

leading to the B.S. in Imaging Science where students complete their first two years of coursework at MCC and earn an A.A.S. degree in OST. For more information on the OST program follow the link above. For more information on the 2+2 program contact the [Undergraduate Program Coordinator](#).

A Message from RIT's Lawyers

RIT Non Discrimination Statement

RIT does not discriminate. RIT promotes and values diversity within its workforce and provides equal opportunity to all qualified individuals regardless of race, color, creed, age, marital status, sex, gender, religion, sexual orientation, gender identity, gender expression, national origin, veteran status, or disability.

The Title IX Coordinator has overall responsibility for the university's institutional compliance with Title IX. Any person with a concern about the university's handling of a particular matter related to sex or gender-based discrimination or harassment should contact:

Stacy DeRooy
Director of Title IX and Clery Compliance
Title IX Coordinator
171 Lomb Memorial Drive
Rochester, NY 14623
585-475-7158
Stacy.DeRooy@rit.edu
www.rit.edu/titleix

Any person may report sex discrimination, including sexual harassment, in person, by mail, by telephone, or by electronic mail, using the contact information listed for the Title IX Coordinator, or by any other means that results in the Title IX Coordinator receiving the person's verbal or written report. Reports may be made regardless whether the person reporting is the alleged victim of any conduct that could constitute sex or gender-based discrimination or harassment. Reports may be made at any time (including during non-business hours) by calling the telephone number noted above, by electronic mail, by mail to the office address listed for the Title IX Coordinator, or by filing a [report on line](#) with RIT's Title IX Office.

The U.S. Department of Education, Office for Civil Rights (OCR) is a federal agency responsible for ensuring compliance with Title IX. OCR may be contacted at 400 Maryland Avenue, SW, Washington, DC 20202-1100, (800) 421-3481.

Program Contacts

Undergraduate Program Coordinator

James Ferwerda, CAR-3262, jafpci@rit.edu

COS Academic Advisor

Lindsay Cohen, GOS-1290, 585-475-6479, laciao@rit.edu

CIS Academic Coordinator

Lori Hyde, CAR-2274, 585-475-2786, lksse@rit.edu

CIS Administration

Director

Susan Houde-Walter, CAR-2264, 585-475-2336, shwcis@rit.edu

Associate Director

Karen Braun, CAR-2246, 585-475-7323, kmbcis@rit.edu

Senior Project FAQ

What is senior project?

Senior project, is a capstone research experience that is part of the Imaging Science undergraduate program. Typically, in senior project, a student finds a topic within the field of imaging science that interests them, and completes an independent research project on this topic over the course of their senior year under the guidance of an advisor. Students may also use research experiences gained as part of a co-op, internship, or research assistantship as the basis of their senior project.

How do I figure out what I'm going to do for my senior project?

Senior projects can either be student-driven, faculty-driven, or some combination of the two. Often students will approach faculty members whose research area they're interested in and ask if they can get involved in their research. Alternately, students who want to work on a particular topic can approach faculty members with related expertise and ask them to be their advisors. Any CIS or CIS-affiliated faculty member can serve as a senior project advisor.

When do I need to figure this out by?

Students should start thinking about their projects and approaching potential advisors in the spring semester of their junior year.

Is there any paperwork involved?

Yes, all projects need to be approved by the Undergraduate Program Coordinator. To complete the approval process, students need to fill out and submit the Senior Project Approval Form. Forms can be submitted at any time, and will be reviewed/approved on a rolling basis. Early submission is encouraged. The hard deadline for submission/approval is the second week of classes in the Fall term.

Are there courses associated with the senior project?

Yes, IMGS-502 Imaging Science Senior Project I (Fall) and IMGS-503 Imaging Science Senior Project II (Spring). Students completing their projects over the course of their senior years must enroll in these courses. Student using research experiences gained through co-ops, internships, or research assistantships will enroll in professional electives instead. The syllabi for the courses are available from the instructor.

What is the purpose of the classes?

The purpose of IMGS-502/503 is to help students stay on track with their projects over the course of the year. In each class there is a series of written assignments and presentations that build toward the final project paper, poster, and presentation. Please consult the course syllabi for details.

How will my assignments be graded?

Your written assignments in IMGS-502 and 503 will be reviewed by your project advisory committee and graded by your project advisor. Your presentations will be reviewed and graded by the senior project executive committee.

I'm currently employed as a research assistant in a faculty member's lab, can I use this work as the basis of my senior project?

Yes, but you cannot simultaneously receive pay and credit for the work. For example, if you start your project over the summer, you can be paid for that work, but during your senior year you must either stop being paid and enroll in IMGS-502/502, or continue the work for pay and enroll in professional elective courses distinct from your research.

Do I have to do senior project?

Yes, the faculty believe that the experience of doing a hands-on independent research project is an important component of your education as imaging scientists. It is a requirement for graduation. You may also find that you really enjoy research (or not). This is also a valuable learning experience.

Who do I contact if I have further questions?

You can contact the [Undergraduate Program Coordinator](#) and/or the instructor for IMGS-502/503.