

Rochester Institute of Technology

College of Science

Program of Color Science

Munsell Color Science Laboratory

RIT Color Science

Graduate Curriculum Revisions Effective Fall 2014

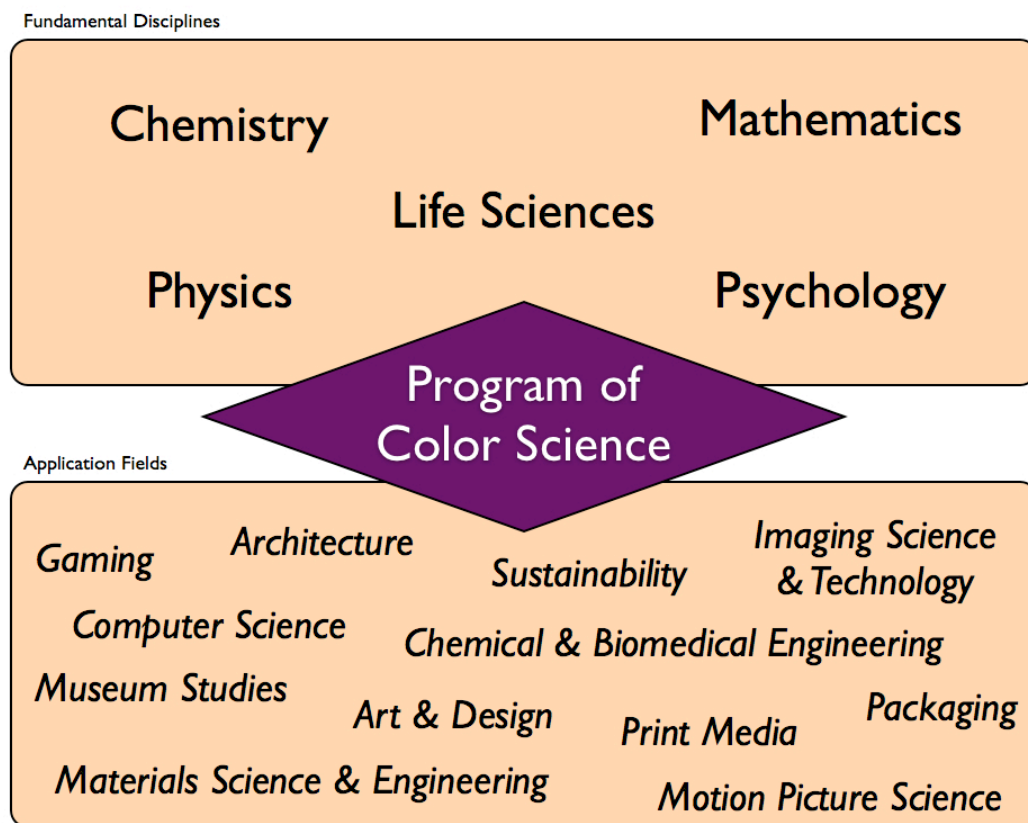


Revised Curriculum

This revision, which could certainly be considered minor, in the curriculum aligns it with a new multidisciplinary nature, makes more room for electives, and properly recognizes color science as a fundamental multidisciplinary field of science that has a wide variety of applications. These proposed changes do not lose the strong history and identity of color science education at RIT, but they do open it up to an even more diverse population of incoming students who are interested in the application of color science to an even wider range of areas. This new definition of the program with greater flexibility provides a truly multidisciplinary experience in both research and education. The diagram below illustrates the multidisciplinary definition of color science and the range of RIT application fields with related academic programs.

Color science, and therefore PoCS, is a fundamental field of science dedicated to understanding the creation of colored stimuli, sources of illumination, and ultimately the human perception of color. As such, it builds upon, and crosses the disciplinary boundaries of, chemistry, physics, life sciences, and mathematics in the College of Science and psychology in the College of Liberal Arts. The multidisciplinary field of color science has applications in almost every endeavor of industry. At RIT, strong and clear examples of color science application fields include: imaging science, photographic & imaging technology, computer science, gaming, sustainability, architecture, museum studies, materials science & engineering, art & design, chemical & biomedical engineering, media sciences, packaging science, motion picture science, and likely several others. The specific proposed curriculum changes are illustrated in the charts on the following two pages for the Ph.D. and M.S. programs respectively.

The previous Color Science Ph.D. program required 21 credits of core courses, between 3-15 credits of elective courses, and between 24-36 credits of research for a total of 60 required credit hours. The revision increases flexibility by reducing the required core courses



to 15 credits, allowing 9-21 credits of elective courses (which could come from any of the fundamental disciplines or application fields), and still requiring 24-36 credits of research for an unchanged total of 60 required credit hours. How this is accomplished is illustrated in the following chart.

The second chart propagates the same changes into the M.S. program. Since the M.S. program requires the same core courses as the Ph.D. (and is, in fact the core of the Ph.D.), there are no significant differences in the proposed revision. The only difference is that the M.S. program requires 6 credits of research and with a full requirement of 30 credit hours, allows for 9 credits of elective courses (still enough for a sequence and an additional course in fundamental disciplines or applications areas).

Other Ph.D requirements such as the second-year research project, the written qualifying examination in year 2, the candidacy examination, and other dissertation requirements remain unchanged. All have been very successfully implemented in the current Color Science Ph.D. program and there is no apparent reason for change. There will be no impact on existing students since all are past the core requirements.

Color Science Ph.D. Program Proposed Revision for Fall 2014

Previous	Revised	Notes
IMGS820 Human Visual System, F, 3	---	<i>Material not required for all students.</i>
CLRS700 Colorimetry, F, 3	CLRS601 Principles of Color Science, F, 3	<i>New course with lab.</i>
CLRS710 Colorimetry Lab, F, 1	---	<i>Lab incorporated in new course.</i>
CLRS720 Computational Vision Science, F, 3	CLRS720 Computational Vision Science, F, 3	<i>Computational research tools are needed.</i>
CLRS750 Historical Research Perspectives, F, 1	CLRS750 Historical Research Perspectives, F, 1	<i>Seminar course remains.</i>
CLRS800 Color Systems Engineering, S, 3	CLRS602 Color Physics and Applications, S, 3	<i>Revised course.</i>
CLRS820 Modeling Visual Perception, S, 3	CLRS820 Modeling Visual Perception, S, 3	<i>Replaces vision science material and builds on math and computation.</i>
CLRS711 Material Appearance Lab, S, 2	---	<i>Material not required. New elective available.</i>
CLRS751 Research and Publication Methods, S, 2	CLRS751 Research and Publication Methods, S, 2	<i>Seminar course remains.</i>
Electives: 3	Electives: 9	<i>3 elective courses required.</i>
Research or Electives: 12	Research or Electives: 12	<i>4 more electives can be taken (up to 3.5 sequences).</i>
Research: 24	Research: 24	<i>No change in research minimum.</i>
Total Core: 21 Total Course: 24-36 Total Research: 36-24 Total: 60	Total Core: 15 Total Course: 24-36 Total Research: 36-24 Total: 60	<i>Core becomes 4 courses plus seminar (3). Total (60) and research flexibility remain.</i>

Summary: Moving 6 credits to electives and revising two courses (6 credits). Partially affecting 12/60 credits (20%). ~10% of program changed.

Color Science M.S. Program Proposed Revision for Fall 2014

<i>Previous</i>	<i>Revised</i>	<i>Notes</i>
IMGS820 Human Visual System, F, 3	---	<i>Material not required for all students.</i>
CLRS700 Colorimetry, F, 3	CLRS601 Principles of Color Science, F, 3	<i>New course with lab.</i>
CLRS710 Colorimetry Lab, F, 1	---	<i>Lab incorporated in new course.</i>
CLRS720 Computational Vision Science, F, 3	CLRS720 Computational Vision Science, F, 3	<i>Computational research tools are needed.</i>
CLRS750 Historical Research Perspectives, F, 1	CLRS750 Historical Research Perspectives, F, 1	<i>Seminar course remains.</i>
CLRS800 Color Systems Engineering, S, 3	CLRS602 Color Physics and Applications, S, 3	<i>Revised course.</i>
CLRS820 Modeling Visual Perception, S, 3	CLRS820 Modeling Visual Perception, S, 3	<i>Replaces vision science material and builds on math and computation.</i>
CLRS711 Material Appearance Lab, S, 2	---	<i>Material not required. New elective available.</i>
CLRS751 Research and Publication Methods, S, 2	CLRS751 Research and Publication Methods, S, 2	<i>Seminar course remains.</i>
Electives: 3	Electives: 9	<i>3 elective courses required.</i>
Research or Electives: 0	Research or Electives: 0	<i>No research flexibility in M.S. (6 required).</i>
Research: 6	Research: 6	<i>No change in research requirement.</i>
Total Core: 21 Total Course: 24 Total Research: 6 Total: 30	Total Core: 15 Total Course: 24 Total Research: 6 Total: 30	<i>Core becomes 4 courses plus seminar (3). Total (30) and research (6) remain.</i>

Summary: Moving 6 credits to electives and revising two courses (6 credits). Partially affecting 12/30 credits (40%). ~20% of program changed.