

## COMPUTER GRAPHICS TECHNOLOGY

### Credentials

Foundation skills Certificate	16 cr.
3D and Video Graphics Certificate	30 cr.
Graphic Arts Certificate	30 cr.
Web and Interactive Media Certificate	30 cr.
3D and Video Graphics AAS degree	61-62 cr.
Graphic Arts AAS degree	61-62 cr.
Web and Interactive Media AAS degree	61-62 cr.
Post-associate certificate	16-20 cr.

### Major Description

The merger of art and computer technology is the basis of the program options available for students interested in a career in the expanding fields of graphic design and computer graphics.

Students learn how to use professional level software, hardware and peripherals, and to apply the principles of design, typography and color theory to the creation of effective print- and electronic-based visual communication. The computer graphics technology tracks prepare students for a career in the fields of 3D and video graphics, web and interactive media or digital arts, leading to either a certificate or an associate of applied science degree. Instruction in the programs expands on the skills achieved in the foundation skills certificate or equivalent experience.

The certificate programs provide students with the opportunity to expand their design and application skills for a specific career within the graphic design and computer graphics industry and learn the principles of design to create professional level visual communications and how to apply software, hardware and peripherals.

In addition to the skills and knowledge students acquire in the certificate programs, the degree programs include coursework that meets the general education requirements for a Schoolcraft associate in applied science (AAS) degree. The degree programs' capstone classes expand the students' creative and practical skills.

It is highly recommended that students meet with faculty for advice in selecting their electives. The foundation skills certificate or equivalent skills must be achieved before starting one of the specialty track certificate or AAS programs.

### Foundation Skills Certificate

Schoolcraft program code # CRT.00364

The foundation skills certificate provides students with basic design and application skills for a career in the fields of graphic design and computer graphics. These skills are required for entry into any of the computer graphics technology certificate tracks.

Students who satisfactorily complete all college and program requirements qualify for a certificate of completion.

Note: Schoolcraft has articulation agreements with some high schools and career/technical centers which allow for credits earned to be applied toward a specific Schoolcraft certificate or associate degree. In addition, students may have some non-instructional life experiences that make them eligible for credit. Students should work with an academic advisor or counselor to explore their options for transfer and work life credit.

### SAMPLE SCHEDULE OF COURSES

#### First Year-Fall Semester

CGT 109	Design Concepts & Technology	3
CGT 123	Illustration—Illustrator	3
CGT 125	Digital Imaging 1—Photoshop	3
CGT 127	Publishing—InDesign	3
HUM 106	Introduction to Art & Music	1
Track Option	<i>Select one</i>	3
CGT 247	3D Video: 3D Animation—Introduction	
CGT 136	Web Interactive: Web Design & Development 1	
ART 120	Digital Arts: Drawing: Theory & Elements	
	<b>Total Credits</b>	<b>16</b>

### PROGRAM TOTAL 16 CREDITS

Not all courses are offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them.

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with an academic advisor or counselor. Number of credits may vary depending on the course selection.

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## Computer Graphics Technology Certificate Specialty Tracks

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The computer graphics technology specialty tracks leading to a certificate expand on the skills achieved in the foundation skills certificate or equivalent experience. These certificates give students the opportunity to expand their design and application skills for a specific career within the graphic design and computer graphics industry. The foundation skills certificate or equivalent skills must be achieved before starting one of the specialty track certificate programs. Classes with no prerequisite can be taken before starting the program.

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### Computer Graphics Technology: 3D and Video Graphics Certificate

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Schoolcraft program code # 1YC.00132

This certificate prepares students for a career combining the skills of three-dimensional imaging and video production. With the industry's expansion of computer graphics imaging (CGI), these skills will allow the students to create 3D objects and composite videos with special effects and motion graphics. It creates the opportunity to develop simulations, engineering and architectural visualization for advertising and marketing projects.

Students who satisfactorily complete the program requirements qualify for a certificate of program completion.

#### SAMPLE SCHEDULE OF COURSES

##### First Year-Fall Semester

CGT 166	Photography	3
CGT 168	Storyboarding	3
CGT 215	Motion Graphics 1—After Effects	3
CGT 226	Digital Imaging 2—Photoshop	3
CGT 254	3D Animation—Advanced Models & Textures	3
	<b>Total Credits</b>	<b>15</b>

##### First Year-Winter Semester

CGT 208	Digital Video Production	3
CGT 210	Visual Effects Production	3
CGT 246	Motion Graphics 2—After Effects	3
CGT 252	3D Animation—Animating	3
CGT 256	Portfolio 3D—Reel Development	3
	<b>Total Credits</b>	<b>15</b>

#### PROGRAM TOTAL 30 CREDITS

Not all courses are offered each semester. Students should work with an academic advisor, counselor or Computer Graphics Technology (CGT) faculty to develop a schedule that will work for them.

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with an academic advisor or counselor. Number of credits may vary depending on the course selection.

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### Computer Graphics Technology: Graphic Arts Certificate

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Schoolcraft program code # 1YC.00136

This program teaches students how to blend traditional art techniques with skill using professional graphic design software to create illustrative, fine art and graphic media. By including instruction in color, type, image structure, production planning and marketing, the program prepares students for a wide range of jobs within the design industry.

Students who satisfactorily complete the program requirements qualify for a certificate of program completion.

#### SAMPLE SCHEDULE OF COURSES

##### First Year-Fall Semester

ART 128	The Human Figure in Art 1: Theory & Elements	3
CGT 136	Web Design & Development 1	3
CGT 161	History of Graphic Design	3
CGT 166	Photography	3
CGT 226	Digital Imaging 2—Photoshop	3
	<b>Total Credits</b>	<b>15</b>

##### First Year-Winter Semester

ART 228	The Human Figure in Art 2: Theory & Elements	3
CGT 149	Typography	3
CGT 231	Electronic Publishing	3
CGT 257	Portfolio Preparation	3
Elective	BUS 103 or CGT or ART	3
	<b>Total Credits</b>	<b>15</b>

#### PROGRAM TOTAL 30 CREDITS

Not all courses are offered each semester. Students should work with an academic advisor, counselor or CGT faculty to develop a schedule that will work for them.

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with an academic advisor or counselor. Number of credits may vary depending on the course selection.

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### Computer Graphics Technology: Web and Interactive Media Certificate

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Schoolcraft program code # 1YC.00131

This certificate provides students with the web development, technical programming and graphic design skills necessary to build web and multimedia sites. The focus is on developing a skill set that enables students to stay in-step with constantly evolving requirements and standards in the interactive media industry.

Students who satisfactorily complete the program requirements qualify for a certificate of program completion.

#### SAMPLE SCHEDULE OF COURSES

##### First Year-Fall Semester

CGT 149	Typography	3
CGT 161	History of Graphic Design	3
CGT 163	Web Design & Development 2	3
CGT 168	Storyboarding	3
CGT 141	Introduction to 2D Animation & Interactive Media	3
	<b>Total Credits</b>	<b>15</b>

##### First Year-Winter Semester

CGT 212	Advanced 2D Animation	3
CGT 213	Advanced Interactive Media	3
CGT 226	Digital Imaging 2—Photoshop	3
CGT 234	Web Design & Development 3	3
CIS 238	Java Script	3
	<b>Total Credits</b>	<b>15</b>

#### PROGRAM TOTAL 30 CREDITS

Not all courses are offered each semester. Students should work with an academic advisor, counselor or Computer Graphic Technology (CGT) faculty to develop a schedule that will work for them.

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with an academic advisor or counselor. Number of credits may vary depending on the course selection.

## Computer Graphics Technology AAS Degree Specialty Tracks

The computer graphics technology programs prepare students for a career in the fields of 3D and video graphics, web and interactive media or digital arts. As in the certificate program, students learn how to use the principles of design, typography, and color theory to create professional level visual communications and how to apply software, hardware and peripherals to meet these goals. In addition to the certificate skills, the associate degree tracks include coursework that meets the general education requirements for a Schoolcraft associate in applied science (AAS) degree. The program's capstone classes expand the students' creative and practical skills. It is highly recommended that students meet with faculty for advice in selecting their electives. The foundation skills certificates or equivalent skills must be achieved before starting one of the specialty track AAS degrees. Classes with no prerequisite can be taken before starting the program.

### Computer Graphics Technology: 3D and Video Graphics AAS Degree

Schoolcraft program code # AAS.00032

Similar to the 3D and video graphics certificate, this degree prepares students for a career combining the skills of three-dimensional imaging and video production. In addition, it includes capstone courses that develop creative and practical skills beyond what is taught in the certificate program, as well as coursework that meets the general education requirements for a Schoolcraft associate in applied science (AAS) degree. The degree strengthens the student's position in the profession and gives the student an academic credential with a higher standing.

Students who satisfactorily complete all college and program requirements qualify for an associate in applied science degree. Students wishing to pursue a post-associate certificate must have a computer graphics technology associate degree or equivalent professional experience.

#### SAMPLE SCHEDULE OF COURSES

##### First Year-Fall Semester

Mathematics	<i>Select one</i>	3-4
MATH 101	Business Mathematics	
MATH 102	Technical Mathematics	
MATH 113	Intermediate Algebra	
CGT 166	Photography	3
CGT 168	Storyboarding	3
CGT 215	Motion Graphics 1—After Effects	3
CGT 254	3D Animation—Advanced Models & Textures	3
	<b>Total Credits</b>	<b>15-16</b>

##### First Year-Winter Semester

ENG 101	English Composition 1	3
COMA 103	Fundamentals of Speech	3
CGT 208	Digital Video Production	3
CGT 246	Motion Graphics 2—After Effects	3
CGT 252	3D Animation—Animating	3
	<b>Total Credits</b>	<b>15</b>

##### Second Year-Fall Semester

ENG 102	English Composition 2	3
Science	<i>Select one</i>	4
BIOL 101	General Biology	
CHEM 111	General Chemistry 1	
PHYS 104	Introduction to Astronomy	
CGT 158	Sound Design	3
CGT 226	Digital Imaging 2—Photoshop	3
CGT 244	History of Animation	3
	<b>Total Credits</b>	<b>16</b>

##### Second Year-Winter Semester

Social Science	<i>Select one</i>	3
POLS 105	Survey of American Government	
PSYCH 153	Human Relations	
CGT 210	Visual Effects	3
BUS 103	Organizing a Small Business	3
Capstone	<i>Select one</i>	3
CGT 250	Practical Application	
CGT 270*	Internship	
CGT 298*	Honors Studies	
CGT 256	Portfolio 3D—Reel Development	3
	<b>Total Credits</b>	<b>15</b>

#### PROGRAM TOTAL 61-62 CREDITS

\* These classes are offered as independent learning. Contact CGT faculty.

Not all courses are offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them.

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with an academic advisor or counselor. Number of credits may vary depending on the course selection.

### Computer Graphics Technology: Graphic Arts AAS Degree

Schoolcraft program code # AAS.00028

Similar to the graphic arts certificate, this program teaches students how to blend traditional art techniques with skill using professional graphic design software to create illustrative, fine art and graphic media, preparing students for a wide range of jobs within the design industry. In addition, it includes capstone courses that develop creative and practical skills beyond what is taught in the certificate program, as well as coursework that meets the general education requirements for a Schoolcraft associate in applied science (AAS) degree. The degree strengthens the student's position in the profession and gives the student an academic credential with a higher standing.

Students who satisfactorily complete all college and program requirements qualify for an associate in applied science degree. Students wishing to pursue a post-associate certificate must have a computer graphics technology associate degree or equivalent professional experience.

#### SAMPLE SCHEDULE OF COURSES

##### First Year-Fall Semester

Mathematics	<i>Select one</i>	3-4
MATH 101	Business Mathematics	
MATH 102	Technical Mathematics	
MATH 113	Intermediate Algebra	
CGT 166	Photography	3
CGT 168	Storyboarding	3

##### First Year-Winter Semester

ENG 101	English Composition 1	3
COMA 103	Fundamentals of Speech	3
CGT 208	Digital Video Production	3
CGT 246	Motion Graphics 2—After Effects	3
CGT 252	3D Animation—Animating	3
	<b>Total Credits</b>	<b>15</b>

## Computer Graphics Technology: Graphic Arts AAS Degree (Continued)

### SAMPLE SCHEDULE OF COURSES (continued)

#### First Year-Fall Semester (continued)

CGT 136	Web Design & Development 1	3
CGT 161	History of Graphic Design	3
	<b>Total Credits</b>	<b>15-16</b>

#### Second Year-Fall Semester

Science	<i>Select one</i>	4
BIOL 101	General Biology	
CHEM 111	General Chemistry 1	
PHYS 104	Introduction to Astronomy	
COMA 103	Fundamentals of Speech	3
Elective	<i>Select one</i>	3
ART 246	Sculpture 1: Theory & Elements	
WELD 112	Contemporary Metal Sculpture	
Elective	<i>Select one</i>	3
	Any ART or CGT course	
CGT 149	Typography	3
	<b>Total Credits</b>	<b>16</b>

#### Second Year-Winter Semester

Social Science	<i>Select one</i>	3
POLS 105	Survey of American Government	
PSYCH 153	Human Relations	
CGT 231	Electronic Publishing	3
BUS 103	Organizing a Small Business	3
Capstone	<i>Select one</i>	3
CGT 250	Practical Application	
CGT 270*	Internship	
CGT 298*	Honors Studies	
CGT 257	Portfolio Preparation	3
	<b>Total Credits</b>	<b>15</b>

### PROGRAM TOTAL 61-62 CREDITS

\*These classes are offered as independent learning. Contact CGT faculty.

Not all courses are offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them.

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with an academic advisor or counselor. Number of credits may vary depending on the course selection.

## Computer Graphics Technology: Web and Interactive Media AAS Degree

Schoolcraft program code # AAS.00031

Similar to the web and interactive media certificate, this degree provides students with the web development, technical programming and graphic design skills necessary to build web and multimedia sites. In addition, it includes capstone courses that develop creative and practical skills beyond what is taught in the certificate program, as well as coursework that meets the general education requirements for a Schoolcraft associate in applied science (AAS) degree. The degree strengthens the student's position in the profession and gives the student an academic credential with a higher standing.

Students who satisfactorily complete all college and program requirements qualify for an associate in applied science degree. Students wishing to pursue a post-associate certificate must have a computer graphics technology associate degree or equivalent professional experience.

### SAMPLE SCHEDULE OF COURSES

#### First Year-Fall Semester

ENG 101	English Composition 1	3
Mathematics	<i>Select one</i>	3-4
MATH 101	Business Mathematics	
MATH 102	Technical Mathematics	
MATH 113	Intermediate Algebra	
CGT 163	Web Design & Development 2	3
CGT 149	Typography	3
CGT 141	Introduction to 2D Animation & Interactive Media	3
	<b>Total Credits</b>	<b>15-16</b>

#### First Year-Winter Semester

ENG 102	English Composition 2	3
CGT 213	Advanced 2D Animation	3
CGT 161	History of Graphic Design	3
CGT 168	Storyboarding	3
CGT 212	Advanced Interactive Media	3
	<b>Total Credits</b>	<b>15</b>

#### Second Year-Fall Semester

Science	<i>Select one</i>	4
BIOL 101	General Biology	
CHEM 111	General Chemistry 1	
PHYS 104	Introduction to Astronomy	
COMA 103	Fundamentals of Speech	3
CGT 234	Web Design & Development 3	3
CGT 226	Digital Imaging 2—Photoshop	3
BUS 122	Advertising	3
	<b>Total Credits</b>	<b>16</b>

#### Second Year-Winter Semester

Social Science	<i>Select one</i>	3
POLS 105	Survey of American Government	
PSYCH 153	Human Relations	
CIS 238	Java Script	3
BUS 103	Organizing a Small Business	3
Capstone	<i>Select one</i>	3
CGT 250	Practical Application	
CGT 270*	Internship	
CGT 298*	Honors Studies	
CGT 257	Portfolio Preparation	3
	<b>Total Credits</b>	<b>15</b>

### PROGRAM TOTAL 61-62 CREDITS

\*These classes are offered as independent learning. Contact CGT faculty.

Not all courses are offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them.

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with an academic advisor or counselor. Number of credits may vary depending on the course selection.

## Computer Graphics Technology Post-Associate Certificate

Schoolcraft program code # PAC.00181

The post-associate certificate is for those students who have a degree in computer graphics and/or are working in the profession and wish to add an additional area of specialty to their portfolio. Students should take a combination of six courses based on the specific area of study. It is highly recommended that Computer Graphics Technology (CGT) faculty be consulted when selecting courses. Students can assemble courses to develop expertise in 3D animation, video graphics, web design, interactive media, publishing or graphic design. Prerequisite and co-requisite requirements must be honored.

The post-associate certificate is awarded upon successful completion of 16 credits (exact number may vary slightly due to credit value of course.)

ART 115	Art History 1	4	CGT 210	Visual Effects Production	3
ART 116	Art History 2	4	CGT 212	Advanced Interactive Media	3
ART 120	Drawing: Theory & Elements	3	CGT 213	Advanced 2D Animation	3
ART 128	The Human Figure in Art 1: Theory & Elements	3	CGT 215	Motion Graphics 1—After Effects	3
ART 246	Sculpture 1: Theory & Elements	3	CGT 226	Digital Imaging 2—Photoshop	3
CGT 136	Web Design & Development 1	3	CGT 231	Electronic Publishing	3
CGT 141	Introduction to 2D Animation & Interactive Media	3	CGT 234	Web Design & Development 3	3
CGT 149	Typography	3	CGT 244	History of Animation	3
CGT 158	Sound Design	3	CGT 246	Motion Graphics 2—After Effects	3
CGT 163	Web Design & Development 2	3	CGT 247	3D Animation—Introduction	3
CGT 166	Photography	3	CGT 252	3D Animation—Animating	3
CGT 168	Storyboarding	3	CGT 254	3D Animation—Advanced Models & Textures	3
CGT 208	Digital Video Production	3	WELD 112	Contemporary Metal Sculpture	3

### PROGRAM TOTAL 16-20 CREDITS

Not all courses are offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Number of credits may vary depending on the course selection.

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