

# CANCER BIOLOGY, MS

## REQUIREMENTS

### MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (<http://guide.wisc.edu/graduate/#policiesandrequirements>), in addition to the program requirements listed below.

### MAJOR REQUIREMENTS

#### MODE OF INSTRUCTION

Face to Face	Evening/ Weekend	Online	Hybrid	Accelerated
Yes	No	No	No	No

#### Mode of Instruction Definitions

**Accelerated:** Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

**Evening/Weekend:** Courses meet on the UW-Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

**Face-to-Face:** Courses typically meet during weekdays on the UW-Madison Campus.

**Hybrid:** These programs combine face-to-face and online learning formats. Contact the program for more specific information.

**Online:** These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

### CURRICULAR REQUIREMENTS

#### Requirement Detail

Minimum Credit Requirement 30 credits

Minimum Residence Credit Requirement 16 credits

Minimum Graduate Coursework Requirement 15 credits must be graduate-level coursework. Refer to the Graduate School: Minimum Graduate Coursework Requirement (50%) Requirement policy: <https://policy.wisc.edu/library/UW-1244> (<https://policy.wisc.edu/library/UW-1244/>).

Overall Graduate GPA Requirement 3.00 GPA required. Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: <https://policy.wisc.edu/library/UW-1203> (<https://policy.wisc.edu/library/UW-1203/>).

Other Grade Requirements Students must earn a B or above in all required Core Courses, otherwise the course must be repeated.

Assessments and Examinations Thesis track—requires a formal thesis.

Non-thesis track—no formal examination required.

Language Requirements No language requirements.

### REQUIRED COURSES

The curriculum for Cancer Biology is designed to introduce you to research related to the induction, properties, and therapy of cancer and to ensure that you have the necessary background in one or more areas of related, fundamental science to enable you to do original research. Courses are drawn from the Department of Oncology as well as various related departments, including Bacteriology, Biochemistry, Biomolecular Chemistry, Chemistry, Genetics, Human Oncology, Medical Microbiology and Immunology, Pathology and Laboratory Medicine, and Pharmacology.

The Graduate School at UW-Madison requires PhD students to complete a minimum of 51 credits in order to obtain a PhD Degree. These credits are fulfilled via core curriculum courses, 990 research, and electives. Courses numbered below 300, audit, and pass/fail do not satisfy the credit minimum requirement. It is suggested that you take approximately 2 courses per semester with the remaining credits being 990 research. All courses must be completed by the end of your second year, before completing the Preliminary Exam.

Code	Title	Credits
<b>Core Courses</b>		
ONCOLOGY/ M M & I/ PL PATH 640	General Virology-Multiplication of Viruses	3
ONCOLOGY 703	Carcinogenesis and Tumor Cell Biology	3
ONCOLOGY 715	Ethics in Science	1
ONCOLOGY 725	Readings in Cancer Biology	2
ONCOLOGY 735	Current Problems in Cancer Biology	2
ONCOLOGY 901	Seminar (presentation)	1
<b>Research Credits</b>		<b>12</b>
ONCOLOGY 990	Research <sup>1</sup>	
<b>Quantitative Requirement</b>		
B M I/STAT 541	Introduction to Biostatistics	3
	or ONCOLOGY 778 Bioinformatics for Biologists	
<b>Electives (two courses)</b>		<b>3-6</b>
Students may select electives in consultation with their advisor. These courses should be numbered 500 and above. The list below provides some examples of commonly taken courses.		
<b>Total Credits</b>		<b>30-33</b>

<sup>1</sup> Students will enroll in up to 12 credits per semester as pre-dissertators (only 2 credits during the summer term).

#### Seminar

Beginning in your second year, you will be required to give an annual, formal presentation in the Cancer Biology Student/Postdoc Seminar Series. You will register for ONCOLOGY 901 Seminar during the semester in which you present. Your seminars will be recorded and you will receive feedback from the seminar course instructor to help improve your public

speaking and presentation skills. **Attendance at this seminar series is required.**

In addition, you are expected to attend the Cancer Biology Seminar throughout your graduate career (no registration required). The Cancer Biology Seminar, which features local and outside faculty speakers, is held on Wednesdays at 10:30 a.m. in 1345 HSLC. The schedule is posted on the McArdle website (<https://mcardle.wisc.edu/seminar-schedules/>).

### Suggested Electives

Code	Title	Credits
BIOCHEM 601	Protein and Enzyme Structure and Function	2
BIOCHEM/ GENETICS/ MICROBIO 612	Prokaryotic Molecular Biology	3
PATH-BIO/ M M & I 528	Immunology	3
MICROBIO 607 M M & I 740	Advanced Microbial Genetics Mechanisms of Microbial Pathogenesis	3
PATH 803	Pathogenesis of Major Human Diseases	3
BIOCHEM/ GENETICS/ MD GENET 620	Eukaryotic Molecular Biology	3
BIOCHEM 625	Mechanisms of Action of Vitamins and Minerals	2
CRB 640	Fundamentals of Stem Cell and Regenerative Biology	3
CRB 650	Molecular and Cellular Organogenesis	3
CRB/MEDICINE 701	Cell Signaling and Human Disease	1
B M E 520	Stem Cell Bioengineering	3
CBE/B M E 783	Design of Biological Molecules	3
PATH 750	Cellular and Molecular Biology/ Pathology	2
M M & I/PATH- BIO 750	Host-Parasite Relationships in Vertebrate Viral Disease	3