

# MOLECULAR BIOTECHNOLOGY (M.S.)

The Molecular Biotechnology Program is a career-oriented program specifically designed to educate and train technically-oriented people in both the theory and practice of modern biotechnology. The program's main emphasis is on the application of these skills through integration of classroom, laboratory, and research experiences.

## Admission Requirements

Admission to this program is contingent upon admission to the Graduate School (<http://bulletins.wayne.edu/graduate/general-information/admission/>). In addition, applicants are expected to have attained a level of scholarship in the baccalaureate program equal to a grade point average of 3.0 or better, including adequate preparation in biological sciences and supporting courses in chemistry, physics and mathematics. The general portion of the Graduate Record Examination (GRE) is required. An introductory genetics course and a microbiology course passed with grades of 'B' or better are required, and completion of an introductory biochemistry course is strongly recommended. Deficiencies in course work must be completed before beginning the program. Students may enter in the Fall semester only.

## Program Requirements

The M.S. in Molecular Biotechnology requires thirty-eight credits. Coursework will be completed in accordance with the schedule set by the Program Director, Dr. Weilong Hao. Students must consult with Dr. Hao, each semester prior to registration. All course work must be completed in accordance with the regulations of the Graduate School (<http://bulletins.wayne.edu/graduate/general-information/academic-regulations/>) and the College of Liberal Arts and Sciences (<http://bulletins.wayne.edu/graduate/college-liberal-arts-sciences/academic-regulations/>).

**Candidacy:** Applicants become degree candidates after completing twelve credit hours of course work and filing a Plan of Work which must be approved and signed by Dr. Hao.

## Proposed Plan of Work

### First Year

Fall Semester		Credits
BIO 7520	Nucleic Acid Laboratory	2
BIO 6540	Principles of Genetic Analysis	1
BIO 6510	Molecular Interactions	1
BIO 9996	Lab Rotation	2
BIO 6700	Responsible Conduct of Research	1
<b>Credits</b>		<b>7</b>

### Winter Semester

BIO 7530	Proteins Laboratory	2
BIO 7560	Light Microscopy and Imaging	2
BIO 6530	Protein Structure and Dynamics	1
BIO 6520	Gene Expression Manipulation Systems	1
BIO 9996	Lab Rotation	2
BIO 7300	Communication of Research	2
<b>Credits</b>		<b>10</b>

### Spring/Summer Semester

BIO 8996	Research in Molecular Biotechnology	2
<b>Credits</b>		<b>2</b>

### Second Year

#### Fall Semester

Elective (6000 or 7000-level)		3
BIO 8995	Graduate Seminar in Biology	2

BIO 8996	Research in Molecular Biotechnology	3
<b>Credits</b>		<b>8</b>
<b>Winter Semester</b>		
Elective (6000 or 7000-level)		3
BIO 8996	Research in Molecular Biotechnology	3
<b>Credits</b>		<b>6</b>
<b>Spring/Summer Semester</b>		
BIO 8996	Research in Molecular Biotechnology	2
Master's Essay		3
<b>Credits</b>		<b>5</b>
<b>Total Credits</b>		<b>38</b>