

Biochemistry and Molecular Biology
Division of Environmental and Biomolecular Systems
OHSU Institute of Environmental Health
Program Requirement Checklists

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Degree: **Biochemistry and Molecular Biology – Master of Science – Nonthesis**
 Track: **Biochemistry and Molecular Biology**
 Matriculation Term:

General Degree Requirements:

- 46 credits total
- Cumulative GPA at or above 3.0
- Written report on the research performed, accepted and approved by advisor
- Ethics course (CONJ 650 or approved equivalent): Completed
- Division Seminar (EBS 507A) at least two quarters. Waive when part-time:

Curriculum: **Credits** **Grade** **Term/Year**

Core Courses (12 Credits required):

EBS 512 - Proteins and Enzymes			
EBS 513 - Introduction to Molecular Biology			
EBS 514 - Metabolism and Bioenergetics			

Advanced Elective Courses (16 credits, including special topics and independent studies):

Reading Groups (6 credits, includes student seminars):

Research and/or Internship (10 credits)

Degree: **Biochemistry and Molecular Biology – Master of Science – Thesis**

Track: **Biochemistry and Molecular Biology**

Matriculation Term:

General Degree Requirements:

- 46 credits total
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Department Seminar (EBS 507A) at least four quarters. Waive when part-time:
- A written thesis and oral defense composed of original research

Curriculum: **Credits** **Grade** **Term/Year**

Core Courses (12 Credits required):

EBS 512 - Proteins and Enzymes

EBS 513 - Introduction to Molecular Biology

EBS 514 - Metabolism and Bioenergetics

Advanced Elective Courses (8 credits, including special topics and independent studies):

	Credits	Grade	Term/Year
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Reading Groups (6 credits, includes student seminars):

	Credits	Grade	Term/Year
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Research and/or Internship (18 credits)

	Credits	Grade	Term/Year
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Degree: **Biochemistry and Molecular Biology – Doctor of Philosophy**

Track: **Biochemistry and Molecular Biology**

Matriculation Term:

General Degree Requirements:

- 136 credits minimum
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Department Seminar (EBS 607A) at least eight quarters. Waive when part-time:
- Qualifying exam. Date Completed: Written Oral
- A written dissertation and oral defense composed of original research of publishable quality

Curriculum: **Credits** **Grade** **Term/Year**

Core Courses (12 Credits required):

EBS 612 - Proteins and Enzymes

EBS 613 - Introduction to Molecular Biology

EBS 614 - Metabolism and Bioenergetics

Advanced Elective Courses (12 credits, including special topics and independent studies):

	Credits	Grade	Term/Year
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Reading Groups (12 credits, includes student seminars):

	Credits	Grade	Term/Year
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Research (24+ credits)

	Credits	Grade	Term/Year
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Degree: **Biochemistry and Molecular Biology – Master of Science – Nonthesis**
Track: **Environmental and Biomolecular Systems**
Matriculation Term:

General Degree Requirements:

- 46 credits total
- Cumulative GPA at or above 3.0
- Written report on the research performed, accepted and approved by advisor
- Ethics course (CONJ 650 or approved equivalent): Completed
- Division Seminar (EBS 507A) at least two quarters. Waive when part-time:

Curriculum: **Credits** **Grade** **Term/Year**

Core Courses (12 Credits required):

EBS 515 - Environ. Biomolec. Hist. Earth			
EBS 516 - Environ. Bioinorganic Chem.			
EBS 517 - Environ. Syst. and Human Health			

Advanced Elective Courses (16 credits, including special topics and independent studies):

Reading Groups (6 credits, includes student seminars):

Research and/or Internship (10 credits)

Degree: **Biochemistry and Molecular Biology – Master of Science – Thesis**
Track: **Environmental and Biomolecular Systems**
Matriculation Term:

General Degree Requirements:

- 46 credits total
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Department Seminar (EBS 507A) at least four quarters. Waive when part-time:
- A written thesis and oral defense composed of original research

Curriculum: **Credits** **Grade** **Term/Year**

Core Courses (12 Credits required):

EBS 515 - Environ. Biomolec. Hist. Earth			
EBS 516 - Environ. Bioinorganic Chem.			
EBS 517 - Environ. Syst. and Human Health			

Advanced Elective Courses (8 credits, including special topics and independent studies):

Reading Groups (6 credits, includes student seminars):

Research and/or Internship (18 credits)

Degree: **Biochemistry and Molecular Biology – Doctor of Philosophy**
 Track: **Environmental and Biomolecular Systems**
 Matriculation Term:

General Degree Requirements:

- 136 credits minimum
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Department Seminar (EBS 607A) at least eight quarters. Waive when part-time:
- Qualifying exam. Date Completed: Written _____ Oral _____
- A written dissertation and oral defense composed of original research of publishable quality

<u>Curriculum:</u>	<u>Credits</u>	<u>Grade</u>	<u>Term/Year</u>
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Core Courses (12 Credits required):

EBS 615 - Environ. Biomolec. Hist. Earth	_____	_____	_____
EBS 616 - Environ. Bioinorganic Chem.	_____	_____	_____
EBS 617 - Environ. Syst. and Human Health	_____	_____	_____

Advanced Elective Courses (12 credits, including special topics and independent studies):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Reading Groups (12 credits, includes student seminars):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Research (24+ credits)

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Environmental Science and Engineering
 Division of Environmental and Biomolecular Systems
 OHSU Institute of Environmental Health
 Program Requirement Checklists

<i>Degree:</i>	Environmental Science and Engineering – Master of Science – Nonthesis	2
<i>Track:</i>	<i>Environmental Science and Engineering</i>	2
<i>Degree:</i>	Environmental Science and Engineering – Master of Science – Thesis	3
<i>Track:</i>	<i>Environmental Science and Engineering</i>	3
<i>Degree:</i>	Environmental Science and Engineering – Doctor of Philosophy	4
<i>Track:</i>	<i>Environmental Science and Engineering</i>	4
<i>Degree:</i>	Environmental Science and Engineering – Master of Science – Nonthesis	5
<i>Track:</i>	<i>Environmental and Biomolecular Systems</i>	5
<i>Degree:</i>	Environmental Science and Engineering – Master of Science – Thesis	6
<i>Track:</i>	<i>Environmental and Biomolecular Systems</i>	6
<i>Degree:</i>	Environmental Science and Engineering – Doctor of Philosophy	7
<i>Track:</i>	<i>Environmental and Biomolecular Systems</i>	7
<i>Degree:</i>	Environmental Science and Engineering – Master of Science – Nonthesis	8
<i>Track:</i>	<i>Estuary and Ocean Systems</i>	8
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<i>Degree:</i>	Environmental Science and Engineering – Doctor of Philosophy	10
<i>Track:</i>	<i>Estuary and Ocean Systems</i>	10

Degree: **Environmental Science and Engineering – Master of Science – Nonthesis**
Track: **Environmental Science and Engineering**
Matriculation Term:

General Degree Requirements:

- 46 credits total
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Division Seminar (EBS 507A) at least two quarters. Waive when part-time:

<u>Curriculum:</u>	<u>Credits</u>	<u>Grade</u>	<u>Term/Year</u>
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Core Courses (12 Credits required):

EBS 510 - Aquatic Chemistry			
EBS 535 - Environmental Organic Chemistry			
EBS 575 - Transport Processes			

Advanced Elective Courses (16 credits, including special topics and independent studies):

Reading Groups (6 credits, includes student seminars):

Research and/or Internship (10 credits)

Degree: **Environmental Science and Engineering – Master of Science – Thesis**
Track: **Environmental Science and Engineering**
Matriculation Term:

General Degree Requirements:

- 46 credits total
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Department Seminar (EBS 507A) at least four quarters. Waive when part-time:
- A written thesis and oral defense composed of original research

<u>Curriculum:</u>	<u>Credits</u>	<u>Grade</u>	<u>Term/Year</u>
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Core Courses (12 Credits required):

EBS 510 - Aquatic Chemistry	_____	_____	_____
EBS 535 - Environmental Organic Chemistry	_____	_____	_____
EBS 575 - Transport Processes	_____	_____	_____

Advanced Elective Courses (8 credits, including special topics and independent studies):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Reading Groups (6 credits, includes student seminars):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Research (18 credits)

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Degree: **Environmental Science and Engineering – Doctor of Philosophy**

Track: **Environmental Science and Engineering**

Matriculation Term:

General Degree Requirements:

- 136 credits minimum
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Department Seminar (EBS 607A) at least eight quarters. Waive when part-time:
- Qualifying exam. Date Completed: Written Oral
- A written dissertation and oral defense composed of original research of publishable quality

Curriculum: **Credits** **Grade** **Term/Year**

Core Courses (12 Credits required):

EBS 610 - Aquatic Chemistry

EBS 635 - Environmental Organic Chemistry

EBS 675 - Transport Processes

Advanced Elective Courses (12 credits, including special topics and independent studies):

	Credits	Grade	Term/Year
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Reading Groups (12 credits, includes student seminars):

	Credits	Grade	Term/Year
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Research (24+ credits)

	Credits	Grade	Term/Year
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Degree: **Environmental Science and Engineering – Master of Science – Nonthesis**
Track: **Environmental and Biomolecular Systems**
Matriculation Term:

General Degree Requirements:

- 46 credits total
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Department Seminar (EBS 507A) at least two quarters. Waive when part-time:

<u>Curriculum:</u>	<u>Credits</u>	<u>Grade</u>	<u>Term/Year</u>
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Core Courses (12 Credits required):

EBS 515 - Environ. Biomolec. Hist. Earth			
EBS 516 - Environ. Bioinorganic Chem.			
EBS 517 - Environ. Syst. and Human Health			

Advanced Elective Courses (16 credits, including special topics and independent studies):

Reading Groups (6 credits, includes student seminars):

Research and/or Internship (10 credits)

Degree: **Environmental Science and Engineering – Master of Science – Thesis**
Track: **Environmental and Biomolecular Systems**
Matriculation Term:

General Degree Requirements:

- 46 credits total
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Department Seminar (EBS 507A) at least four quarters. Waive when part-time:
- A written thesis and oral defense composed of original research

<u>Curriculum:</u>	<u>Credits</u>	<u>Grade</u>	<u>Term/Year</u>
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Core Courses (12 Credits required):

EBS 515 - Environ. Biomolec. Hist. Earth			
EBS 516 - Environ. Bioinorganic Chem.			
EBS 517 - Environ. Syst. and Human Health			

Advanced Elective Courses (8 credits, including special topics and independent studies):

Reading Groups (6 credits, includes student seminars):

Research (18 credits)

Degree: **Environmental Science and Engineering – Doctor of Philosophy**

Track: **Environmental and Biomolecular Systems**

Matriculation Term:

General Degree Requirements:

- 136 credits minimum
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Department Seminar (EBS 607A) at least eight quarters. Waive when part-time:
- Qualifying exam. Date Completed: Written Oral
- A written dissertation and oral defense composed of original research of publishable quality

Curriculum:	Credits	Grade	Term/Year
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Core Courses (12 Credits required):

EBS 615 - Environ. Biomolec. Hist. Earth	_____	_____	_____
EBS 616 - Environ. Bioinorganic Chem.	_____	_____	_____
EBS 617 - Environ. Syst. and Human Health	_____	_____	_____

Advanced Elective Courses (12 credits, including special topics and independent studies):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Reading Groups (12 credits, includes student seminars):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Research (24+ credits)

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Degree: **Environmental Science and Engineering – Master of Science – Nonthesis**
 Track: **Estuary and Ocean Systems**
 Matriculation Term:

General Degree Requirements:

- 46 credits total
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Department Seminar (EBS 507A) at least two quarters. Waive when part-time:

<u>Curriculum:</u>	<u>Credits</u>	<u>Grade</u>	<u>Term/Year</u>
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Core Courses (12 Credits required):

EBS 565 - Estuary and Ocean Systems I			
EBS 566 - Estuary and Ocean Systems II			
EBS 517 - Environ. Syst. and Human Health			

Advanced Elective Courses (16 credits, including special topics and independent studies):

Reading Groups (6 credits, includes student seminars):

Research and/or Internship (10 credits)

Degree: **Environmental Science and Engineering – Master of Science – Thesis**
Track: **Estuary and Ocean Systems**
Matriculation Term:

General Degree Requirements:

- 46 credits total
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Department Seminar (EBS 507A) at least four quarters. Waive when part-time:
- A written thesis and oral defense composed of original research

<u>Curriculum:</u>	<u>Credits</u>	<u>Grade</u>	<u>Term/Year</u>
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Core Courses (12 Credits required):

EBS 565 - Estuary and Ocean Systems I	_____	_____	_____
EBS 566 - Estuary and Ocean Systems II	_____	_____	_____
EBS 517 - Environ. Syst. and Human Health	_____	_____	_____

Advanced Elective Courses (8 credits, including special topics and independent studies):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Reading Groups (6 credits, includes student seminars):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Research (18 credits)

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Degree: **Environmental Science and Engineering – Doctor of Philosophy**
Track: **Estuary and Ocean Systems**
Matriculation Term:

General Degree Requirements:

- 136 credits minimum
- Cumulative GPA at or above 3.0
- Ethics course (CONJ 650 or approved equivalent): Completed
- Department Seminar (EBS 607A) at least eight quarters. Waive when part-time:
- Qualifying exam. Date Completed: Written Oral
- A written dissertation and oral defense composed of original research of publishable quality

<u>Curriculum:</u>	<u>Credits</u>	<u>Grade</u>	<u>Term/Year</u>
---------------------------	-----------------------	---------------------	-------------------------

Core Courses (12 Credits required):

EBS 665 - Estuary and Ocean Systems I	_____	_____	_____
EBS 666 - Estuary and Ocean Systems II	_____	_____	_____
EBS 617 - Environ. Syst. and Human Health	_____	_____	_____

Advanced Elective Courses (12 credits, including special topics and independent studies):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Reading Groups (12 credits, includes student seminars):

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Research (24+ credits)

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____