

PLOs for Doctoral Program in Quantitative Systems Biology

1. *Quantitative and Systems Biology Skill (QB/SB)*

Knowledge and understanding of **quantitative** (statistical, computational, and model-dependent) and high-throughput experimental **systems** approaches to biological problems, and demonstrated ability to conceive, plan, execute and/or interpret the applications of these approaches to research questions.

2. *Ethics*

Knowledge and understanding of **ethical standards** in proposing and executing professional scientific research.

3. *Teaching/Communication*

Ability to effectively assist in the **teaching** of science in a classroom environment, and engage in effective **communication** of original and existing scientific inquiry and results orally and in writing.

4. *Scholarship*

Ability to undertake and demonstrate original graduate-level **scholarship** in specialized areas of biology, including integrative command of historical and current literature and broader scientific context, and identification of open research problems.

5. *Research Ability*

Ability to propose and defend a feasible **research plan** to apply scientific techniques to open research problems and execute, complete and defend original **research** that advances scientific knowledge.

PLOs for Masters Program in Quantitative Systems Biology

(Plan I, thesis option)

1. *Quantitative and Systems Biology Skill (QB/SB)*

Knowledge and understanding of **quantitative** (statistical, computational, and model-dependent) and high-throughput experimental **systems** approaches to biological problems.

2. **Ethics**

Knowledge and understanding of **ethical standards** in proposing and executing professional scientific research.

3. **Communication**

Ability to effectively engage in effective **communication** of original and existing scientific inquiry and results orally and in writing.

4. **Scholarship**

Ability to demonstrate graduate-level **scholarship** in specialized areas of biology, including command of relevant literature.

5. **Research Ability**

Ability to execute and defend original research that contributes to knowledge in the relevant field of biology.

PLOs for Masters Program in Quantitative Systems Biology

(Plan II, non-thesis option)

1. *Quantitative and Systems Biology Skill (QB/SB)*

Knowledge and understanding of **quantitative** (statistical, computational, and model-dependent) and high-throughput experimental **systems** approaches to biological problems.

2. **Ethics**

Knowledge and understanding of **ethical standards** in proposing and executing professional scientific research.

3. Communication

Ability to engage in effective **communication** of original and existing scientific inquiry and results orally and in writing.

4. Scholarship

Ability to undertake and demonstrate original graduate-level **scholarship** in specialized areas of biology, including command of historical and current literature and broader scientific context, identification of open research problems, and identification of feasible techniques to approach those problems.