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.