Essential Learning Outcomes for PSM in Environmental Science

PROGRAM COMPETENCE – Professional Skills
Understand the basic structure and function of Geographic Information Systems.
Be resourceful in problem-solving process.

Analyze the connection between the planning process and environmental protection. Be able to use planning tools to recommend solutions.

Derive knowledge from the following key principles and documents in the planning field: comprehensive plan, zoning ordinance, subdivision regulations, and capital improvement plan. A clear understanding of complexity of environmental quality concerns on various levels.

The ability to apply mathematical concepts, including statistical methods, to field and laboratory data to study pollutant release, transport and distribution in air, soil and water.

The ability to apply mathematical concepts, including statistical methods, to field and laboratory data to effectively remediate polluted sites.

The ability to plan and execute experiments using modern instruments, accurate quantitative measurements, appropriate recording skills, safe lab practices, and appropriate use of computer applications.

An understanding of professional behavior that includes rules of ethics and etiquette. Advanced proficiency in technical writing.

QUANTITATIVE REASONING AND RESEARCH SKILLS
Be able to interpret quantitative data and apply mathematical method to environmental problems.

Be able to use the GIS technology effectively to address geographic questions in decision-making process.

Conduct independent research and present the results in professionally appropriate format.

COMMUNICATION SKILLS
Clearly communicate, through research, written & oral points and effectively organize ideas.
You will be able to make and explain intentional choices among possible organizational strategies, including interdisciplinary strategies required for professional planning field. Be able to adapt your strategies for multiple real-world situations, communicating with different audiences (from lay to professional) appropriately; you will be able to modulate your communications appropriately.

Be able to use professional communications in order to write your own documents, citing multiple sources and synthesizing content from several sources to support your points.

Clearly communicate main points and effectively organize ideas. You will be able to make and explain intentional choices among possible organizational strategies, including your choices between different formats and modes of delivery.

Effectively use delivery skills appropriate to a wide range of professional contexts, including creation of visual materials (brochures etc).

Produce professional communications that are error-free, concise, and written with clarity.

**CREATIVITY & INNOVATION**
Identify multiple approaches for solving regional planning problems.