### River Studies and Leadership Certificate

#### CMU Accepted Courses

#### Core Courses

**Geographic Information Systems Core Courses (choose ONE):**

- GIST 332/332L - Intro to GIS (3 cr)

**River Science (choose ONE):**

- GEOL 455/455L - River Dynamics (4 cr)
- ENVS 433 - Restoration of Aquatic Systems (3 cr)

**River Policy (choose ONE):**

- POLS 488 – Environmental Politics and Policy (3 cr)

**Swiftwater Rescue Core Courses (choose ONE):**

- OREC 312 Swiftwater Rescue Techniques and Theory (3 cr)
- Level 4 American Canoe Association Swiftwater Rescue Course through CMUOutdoor Program (1 cr – KINA topics)

#### Emphasis Coursework (Choose ONE emphasis area)

**River Science Emphasis Area Courses (choose TWO):**

- GEOL 355 - Basic Hydrology (3 cr)
- ENVS 331/331L - Water Quality
- BIOL 414/414L – Freshwater Ecology (4 cr)
- GEOL 402/402L – Applications of Geomorphology (4 cr)
- BIOL 336 – Fish Biology (3 cr)
- GEOL 333 - Geology of the Canyon Country (3 cr) Three two-hour evening lectures with films and slides used to preview geology of the Colorado Plateau. A five-day field trip (rafting) to the selected sites is conducted during spring break.

**River-based Recreation, Education, and Tourism Emphasis Area Courses (choose TWO courses, at least one of which is 3 credits):**

- OREC 205 Foundations of Outdoor Recreation Industry Studies (3 cr)
- OREC 405 Outdoor Recreation Leadership, Programming, Education, and Assessment (3 cr)
- KINA 108 Canoeing (1 cr)
- KINA 108A Stand Up Paddle Boarding (1 cr)
- KINA 109 Kayaking (1 cr)
- KINA 110 River Rafting (1 cr)