Hydrosystems engineering includes the technical areas of hydrology, hydraulics and water resources engineering which are interdisciplinary fields that synthesize knowledge from a wide range of subjects. The curriculum at Arizona State University presents challenging opportunities to both undergraduate and graduate students in hydrosystems engineering. The graduate program provides a strong foundation in hydrology, hydraulics and water resources engineering principles, but remains flexible enough to meet changing needs within these fields. The curriculum is complemented by a range of research activities. The hydrosystems engineering group at ASU receives national and international funding for a wide range of educational and research activities with exciting opportunities available for undergraduate and graduate students and researchers. Field, laboratory and modeling studies are available to interested undergraduate and graduate students. Students are also encouraged to obtain courses and training in topic areas such as geographical information systems, remote sensing, water policy and management, and water resources sustainability. Students who major in hydrosystems engineering go on to have careers in the fields of water resources engineering, hydraulics, hydrology including ground water hydrology and surface water hydrology, environmental fluid hydraulics, environmental remediation, and various others in the private or public sectors.

HYDROSYSTEMS ENGINEERING FACULTY

- Larry Mays, Professor
- Enrique Vivoni, Associate Professor (Specialty Area Coordinator)
- Peter Fox, Professor
- Paul Johnson, Professor and Dean
- Benjamin Ruddell, Assistant Professor
- Zhihua Wang, Assistant Professor
LIST OF COURSES

The hydrosystems engineering graduate program consists of a set of core courses. Students are required to develop a Plan of Study (POS) which includes a minimum of four (4) of the indicated eight (8) classes below:

- CEE 440/598 Hydrology*
- CEE 441/598 Water Resources Engineering*
- CEE 466/598 Urban Water System Design*
- CEE 540 Groundwater Hydrology
- CEE 541 Surface Water Hydrology
- CEE 543 Water Resources Systems
- CEE 564 Contaminant Fate and Transport
- CEE 598 Advanced Watershed Hydrology

*Course can only be taken for graduate credit (CEE 598) if a student has not taken an undergraduate equivalent course.

Taking classes offered in different schools or departments is encouraged for a multidisciplinary education. Students shall have their advisor approve the Plan of Study and course registration each semester. Examples of other courses that could be taken in the hydrosystems engineering graduate degree program include:

- CEE 560 Soil and Groundwater Remediation
- CEE 598 Water Resources Sustainability
- CEE 598 Water Reuse and Reclamation
- CEE 598 Sustainable Civil and Environmental Systems Engineering
- CEE 598 Environmental Fluid Mechanics
- CEE 598 Hydrometeorology
- IEE 573 Reliability Engineering
- IEE 574 Applied Deterministic Operations Research
- IEE 575 Applied Stochastic Operations Research
- IEE 620 Optimization I
- MAE 571 Fluid Mechanics
- MAE 573 Viscous Fluid Flow
- MAE 578 Environmental Fluid Dynamics
- GPH 535 Water Law and Planning
- GLG 598 Ecohydrology of Semiarid Landscapes
- GLG 598 Geomorphology
- GLG 598 Remote Sensing
- GPH 511 Fluvial Processes
- GPH 598 Hydroclimatology
- GPH 598 Geographic Information Analysis

It is important for all doctoral students to read the Civil, Environmental and Sustainable Engineering Ph.D. program manual.

M.S. PROGRAM

The advisor (must be a tenure or tenure-track CESE faculty) in consultation with the student, will establish a Graduate Supervisory Committee (GSC). The GSC shall be composed of a minimum of three faculty with at least two being tenure or tenure-track CESE faculty. The participation of individuals from institutions external to ASU is encouraged. The advisor shall serve as the chair of the GSC, and must be a tenure or tenure-track faculty in the hydrosystems engineering faculty.

The Plan of Study (POS) must be in accordance with Graduate College and Civil, Environmental and Sustainable Engineering (CESE) Program requirements. This typically includes 24 credits of coursework, including at least four of the core graduate hydrosystems engineering classes, plus 6 credits of CEE 599 thesis. CEE 590 (Reading and Conference) may be taken for no more than 3 credits.

M.S.E. PROGRAM

The Graduate Supervisory Committee (GSC) shall consist of all tenure or tenure-track hydrosystems engineering faculty. The advisor shall serve as the chair of the GSC.

The Plan of Study (POS) must be in accordance with Graduate College and Civil, Environmental and Sustainable Engineering (CESE) Program requirements. This includes 30 semester hours of coursework. CEE 590 (Reading and Conference) may be taken for no more than 3 credits, unless otherwise approved by the GSC.

- A final comprehensive exam will be administered by the hydrosystems engineering faculty twice per year, usually taken during the last semester of the program. The students will be tested on questions from four selected core courses taken within the hydrosystems engineering program.