

PUBLIC INFRASTRUCTURE MANAGEMENT AND LEADERSHIP, CAS

Contact

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Program Description

The College of Engineering and Computer Science (ECS), in collaboration with the Department of Public Administration and International Affairs (PA IA) and the Executive Education Program (Exec Ed) within The Maxwell School (Maxwell) at Syracuse University have created a joint 15-credit certificate program entitled the Joint Certificate of Advanced Studies in Public Infrastructure Management and Leadership (CAS-PIML). This certificate program is geared towards mid-career professionals that are interested in building on their body of experience and expanding their skills and knowledge in infrastructure planning, engineering, management and administration through course work that is relevant to their knowledge, interests, and needs.

The CAS-PIML will deliver a certificate to students in both ECS and Maxwell that addresses the planning, design, construction, maintenance, security, capital and operating budgets, environmental and social sustainability impacts and public policy considerations, of public infrastructure. Students will develop skills and knowledge that will assure awareness and competency for functional, financial, environmental and social sustainability concerns of our public infrastructure. In this context, public infrastructure is broadly defined as physical service systems, i.e. water, storm water and waste water systems, transportation, electrical power distribution and telecommunications. The certificate program will be enhanced by on-going speaker programs, executive workshops, and seminars. It will be open to students in both colleges. Applications from students seeking only this certificate will also be considered. The application process will be administered by the Executive Education Program of the Maxwell School.

Student Learning Outcomes

1. Explain and assess leadership and managerial theories, skills, and competencies
2. Demonstrate the ability to prepare and analyze flexible budgets
3. Develop skills in infrastructure planning
4. Become responsible, thoughtful, and qualified leaders in the area of infrastructure asset management
5. Select and evaluate performance measures for public infrastructure
6. Identify principal engineering design considerations for major infrastructure projects
7. Assess the major environmental and social impacts of infrastructure projects

Certificate Requirement

The CAS-PIML will allow mid-career students interested in Public Infrastructure Management an opportunity to complete a 15-credit program, capitalizing on the numerous strengths within ECS, combined with the PAIA and Executive Education programs within the Maxwell

School of Citizenship and Public Affairs. In the program, they will combine multi-disciplinary academic coursework with the real-world strategy and problem-solving skills necessary for today's leaders in complex public administration and utility environments. The degree program will integrate core courses with a career-track elective to provide a solid, yet dynamic and pertinent foundation for advanced studies in the technical and practical challenges of the development and oversight of public infrastructure - including water and wastewater systems, transportation, communications and power.

| Code | Title | Credits |
|--|---|-----------|
| Core Courses | | |
| Select 12 credits of the following: | | 12 |
| PAI 895 | Managerial Leadership | |
| PAI 734 | Public Budgeting | |
| PAI 731 | Financial Management in State and Local Governments | |
| MAE 548 | Engineering Economics and Technology Valuation | |
| ECS 636 | Sustainable Development and Infrastructure Management | |
| Career Elective | | |
| Select one course selected from the list below, or approved by the program director: | | 3 |
| CEE 570 | Water&Wastewtr Trtmnt Des | |
| CEE 601 | Construction Engineering and Project Management | |
| CEE 643 | Transportation Engineering | |
| CEE 678 | Rehabilitation of Civil Infrastructure | |
| PAI 601 | Fundamentals of Conflict Studies | |
| PAI 730 | Problems in Public Administration | |
| PAI 730 | Problems in Public Administration | |
| PAI 757 | Economics of Development | |
| PAI 777 | Economics of Environmental Policy | |
| Total Credits | | 15 |

Total 15 credits leading to a Certificate of Advanced Study in Public Infrastructure Management and Leadership