

SOFTWARE ENGINEERING

Integrated Undergrad-Grad Programs Integrated B.S. in Computer Science and M.S.E. in Software Engineering

This Integrated Undergraduate/Graduate (IUG) degree program combines the B.S. in Computer Science with the M.S.E. in Software Engineering offered at the following campuses:

Undergraduate Degree

- Abington
- Capital

Graduate Degree

- Great Valley
- World Campus

Requirements listed here are in addition to requirements listed in GCAC-210 Integrated Undergraduate-Graduate (IUG) Degree Programs (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-210-integrated-undergraduate-graduate-degree-programs/>).

This Integrated Undergraduate Graduate (IUG) degree program will combine the Master of Software Engineering at the Penn State Great Valley, School of Professional Graduate Studies, with the Bachelor of Science in Computer Science at Penn State Abington into a seamless five-year B.S. to Master's degree program. The IUG concluding in a Master of Software Engineering degree prepares computer professionals to develop software products and services for industry and government through software analysis, design and architecture; system verification; data storage and retrieval; and managing globally distributed development. This program is STEM designated.

Admission Requirements

Applicants apply for admission to the program via the Graduate School application for admission (<http://gradschool.psu.edu/prospective-students/how-to-apply/>). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (<http://gradschool.psu.edu/graduate-education-policies/>).

Students must apply to the program via the Graduate School application for admission (<http://gradschool.psu.edu/prospective-students/how-to-apply/>), and must meet all the admission requirements of the Graduate School. Before applying to the Graduate School, students must have completed entrance to their undergraduate major and have completed no less than 60 credits. Students must be admitted no later than the end of the second week of the semester preceding the semester of expected conferral of the undergraduate degree. Transfer students must have completed at least 15 credits at Penn State to enroll in an IUG.

Admission to the IUG Master of Software Engineering program will be based on baccalaureate academic records, applicable work experience, and one CMPSCI faculty recommendation who can attest to the applicant's academic potential. Normal admission requirements include background in operating systems, programming languages, data structures and algorithm analysis. Applications must include a statement of professional goals and a curriculum vitae or resume. Test scores from the GMAT or GRE exams are not required. An undergraduate cumulative

grade-point average of 3.0 or better on a 4.0 scale is required prior to admission to the IUG program.

In consultation with an adviser, students must prepare a plan of study appropriate to this integrated program, and must present their plan of study to the head of the graduate program or the appropriate committee overseeing the integrated program prior to being admitted to the program. The plan should cover the entire time period of the integrated program, and it should be reviewed periodically with an adviser as the student advances through the program.

Degree Requirements

Students must fulfill all requirements for each degree in order to be awarded that degree, subject to the double-counting of credits as outlined below. Degree requirements for the B.S. in Computer Science are listed in the Undergraduate Bulletin. Degree requirements for the M.S.E. degree are listed on the Degree Requirements tab.

Up to 12 credits may be double-counted towards the degree requirements for both the graduate and undergraduate degrees; a minimum of 50% of the double-counted credits must be at the 500 or 800 level. Independent study courses and credits associated with the culminating experience for the graduate degree cannot be double-counted. IUG students must meet the Graduate School's GPA requirements and maintain a 3.5 GPA in the double counted courses for successful completion of the degree.

| Code | Title | Credits |
|--|---------------------------------|---------|
| Courses Eligible to Double Count for Both Degrees | | |
| CMPSC 430 | Database Design | 3 |
| CMPSC 487W | Software Engineering and Design | 3 |
| SWENG 581 | Software Testing | 3 |
| SWENG 837 | Software System Design | 3 |

Students must sequence their courses so all undergraduate degree requirements are fulfilled before taking courses to count solely towards the graduate degree. Students are expected to complete the undergraduate degree requirements within the typical time to degree for the undergraduate major. In the semester in which the undergraduate degree requirements will be completed, IUG students must apply to graduate, and the undergraduate degree should be conferred at the next appropriate Commencement. If students accepted into the IUG program are unable to complete the M.S.E. degree, they are still eligible to receive their undergraduate degree if all the undergraduate degree requirements have been satisfied.