# DOCTOR OF PHILOSOPHY IN EDUCATION, HUMAN–TECHNOLOGY COLLABORATION CONCENTRATION

The concentration in human-technology collaboration examines how being prepared to create, train, interact, and collaborate with intelligent technologies, i.e., those derived from data science, machine learning, artificial intelligence, etc., is an immediate challenge in the preparation of the global workforce. It's imperative to develop new skills and effective strategies to ask the right questions, interpret data analytics, apply data to improving performance, assess machine uncertainty, make ethical and policy judgments that integrate both data and social values, and find new ways to collaborative. In response, this concentration offers a dynamic cross-disciplinary degree researching how the collaborations of people and machines shape the future.

Visit the program website (https://gsehd.gwu.edu/programs/phd-human-technology-collaboration/) for additional information.

## REQUIREMENTS

The following requirements must be fulfilled: 60 credits, including 36 credits in core courses, and 24 credits in the concentration, successful completion of a second-year research project, successful completion of the comprehensive examination; oral defense of both the dissertation proposal and the dissertation.

Requirements of the Doctor of Philosophy (https://bulletin.gwu.edu/education-human-development/#doctoraltext) program.

| Code | Title | Credits |
|------|-------|---------|
| **Required** | | |
| Core courses | | |
| SEHD 8200 | Foundations of Education I | |
| SEHD 8201 | Foundations of Education II | |
| SEHD 8100 | Special Topics (taken twice for a total of 6 credits) | |
| Research methods | | |
| 12 credits of doctoral-level research methods coursework, selected in consultation with advisor. At least one course must be in quantitative research methods and one in qualitative research methods. | | |
| Dissertation | | |
| SEHD 8999 | Dissertation Research (taken for at least 12 credits) | |

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| Additional requirements | |
| Successful completion of second-year research project. | |
| Successful completion of the comprehensive examination. | |
| Oral defense of both the dissertation proposal and the dissertation. | |

| Code | Title | Credits |
|------|-------|---------|
| **Human–technology collaboration concentration requirements** | | |
| 24 credits in graduate-level courses determined in consultation with the advisor. Course selections are determined by the focus of the concentration and the specific interests of the student. | | |

# DOCTORAL PROGRAM LEVEL B COURSES

## Doctoral Program Level B Courses

GSEHD's Level B research methods courses are advanced courses in a specific research methodology. All GSEHD doctoral students are required to take at least one Level B course in the methodology of their dissertation. The courses listed below are approved to meet this requirement. EDUC 8120 Group Comparison Designs and Analyses, and EDUC 8122 Qualitative Research Methods, must be completed before enrolling in a Level B course.

Some programs require more than one Level B course. Some Level B courses are taken in a predetermined sequence; for this reason, students should check each course description for prerequisites, as courses in the sequence build on others. More information regarding the Level B course sequence is available in the GSEHD Doctoral Student Handbook; (https://gsehd.gwu.edu/student-services/) students also may consult their faculty advisor or research methods faculty (https://gsehd.gwu.edu/directory/)for additional guidance.

| Code | Title | Credits |
|------|-------|---------|
| EDUC 8100 | Experimental Courses (Mixed Methods Research) | |
| EDUC 8130 | Survey Research Methods | |
| EDUC 8131 | Case Study Research Methods | |
| EDUC 8140 | Ethnographic Research Methods | |
| EDUC 8142 | Phenomenological Research Methods | |
| EDUC 8144 | Discourse Analysis | |
| EDUC 8147 | Critical Methodologies in Educational Research | |
| EDUC 8148 | Qualitative Data Collection | |

| EDUC 8149 | Qualitative Data Analysis |
| --- | --- |
| EDUC 8170 | Educational Measurement |
| EDUC 8171 | Predictive Designs and Analyses |
| EDUC 8172 | Multivariate Analysis |
| EDUC 8173 | Structural Equation Modeling |
| EDUC 8174 | Hierarchical Linear Modeling |
| EDUC 8175 | Item Response Theory |
| EDUC 8177 | Assessment Engineering |