

Woodrow Wilson Indiana Teaching Fellowships

MS in Technology with STEM Focus and 6-12 Teaching License

The Purdue School of Engineering and Technology, in partnership with the IU School of Education offers the Master of Science (MS) in Technology with a STEM focus that will allow students with a BS degree in selected STEM areas to obtain an Indiana teaching license in Computer Education and Technology Education for Middle School/Jr. High and High School Settings. Because the Computer Education license currently allows the holder of that license to teach only two courses (computer applications and computer programming) students must get a license in both Technology Education (or another STEM discipline) *and* Computer Education. A program description and coursework is detailed below:

DESCRIPTION OF PROGRAM

Recently, the Indiana University School of Education at IUPUI in collaboration with the Purdue School of Engineering and Technology at IUPUI was granted approval by the Indiana Professional Standards Board to offer initial licensure in Technology Education and Computer Education for Middle School/Jr. High and High School Settings. Students can get Indiana Teacher Licensure and the MS in Technology by meeting the necessary criteria.

Candidates interested in pursuing the MS in Technology with a teaching license in Technology Education and Computer Education must first undergo a degree audit to be accepted into the program. Reviewing candidates' previous undergraduate/graduate coursework aids in ensuring that students coming into the program have exposure to the appropriate, relevant areas necessary for teaching the subject matters in which they may receive licensure. Appropriate undergraduate degrees are listed below:

- Aeronautical/Aviation Technology
- Architecture
- Computer Graphics Technology
- Computer Information Technology
- Computer Integrated Manufacturing Technology
- Construction/ Construction Management Technology
- Electrical Engineering Technology
- **Engineering (any discipline)**
- Engineering Technology
- Industrial Design Technology
- Industrial Technology
- Interior Design Technology
- Manufacturing Technology
- Mechanical Engineering Technology
- Technical Graphics
- Organizational Leadership and Supervision (with a 2 year Associate of Science degree in any of the above areas)

We require the passage of Praxis I to be admitted to the MS Technology STEM Education degree program, along with demonstrated content expertise in one of the areas listed above. Once students are admitted to the program, they will be asked to complete an electronic portfolio assessment that serves three important purposes – 1) to provide faculty with valuable information on how to tailor the program to the specific learning needs of the Fellows, and 2) to provide alternate ways for students seeking licensure in Technology Education to demonstrate competence in the areas that are required to pass the PRAXIS II (see 1-6 below); and 3) to provide students seeking licensure in Computer Education an opportunity to demonstrate competence in core teaching areas and technology standards based on ISTE guidelines, as there is no PRAXIS II in Computer Education.

1. Communications Technology
2. Construction Technology
3. Design Technology
4. Manufacturing Technology
5. Power and Energy
6. Transportation Technology

Early decision Fellowship candidates will be admitted conditionally to the MS in Technology program pending the successful completion of PRAXIS I and after meeting all necessary criteria for selection by the Woodrow Wilson Indiana Teaching Fellowship initiative. Candidates selected for the Fellowship during the final round will successfully pass the PRAXIS I prior to admission. The online portfolio assessment will be administered directly following admission to the master's program and will consist of candidates uploading all materials necessary to complete the portfolio. A portfolio template has been developed and is detailed below. Students will have 30 days to upload the narratives and exhibits.

Title of Exhibit: (Exhibit must be classified under Communications Technology, Construction Technology, Design Technology, Manufacturing Technology, Power and Energy or Transportation Technology)

Exhibit: (the exhibit can be any kind of professional work or project completed when the candidate was a working professional, it can be any undergraduate, graduate or professional development that the candidate completed as a student, or it can be any other project or artifact that the candidate believes proves competence in the aforementioned areas of engineering technology. Exhibits can consist of artifacts, reports, assignments, products, or other items.)

Rationale: (Student will describe when and how this exhibit was acquired. Why this exhibit is a powerful link between the exhibit artifact(s) and the area of engineering technology, and why this exhibit proves competence in the area of engineering technology listed)

Self-Evaluation and Reflection: (Student will describe a sense of efficacy for this particular area of engineering technology and answer questions such as: How were you effective in what you tried to do with this project or learning experience? What are your personal thoughts about the strengths/areas of improvement regarding this exhibit? How have you grown, or how will you grow professionally in this area of engineering technology? How does this exhibit prove

that you are interested in transferring your knowledge as a STEM worker to students in the classroom?

At the end of the MS in Technology degree experience, students will be asked to re-visit the initial portfolio and comment on what they have learned in six areas of engineering technology that will be on the PRAXIS II exam for Technology Education, and to prove competence in ISTE Standards for Computer Education.

THE MASTER'S OF SCIENCE IN TECHNOLOGY:

The School of Engineering and Technology offers graduate instruction leading to the Master of Science (M.S.) degree that enables students to concentrate on professional studies in technology in any of the disciplinary foci and/or areas of specialization (see below) offered by the school.

Disciplinary Foci

Computer and Information Technology
Construction Engineering Management Technology
Engineering Technology
Organizational Leadership and Supervision
STEM Education

Area of Specialization

Facilities Management
STEM Education with Computer Education Indiana Teaching License
STEM Education with Engineering Technology Education Indiana Teaching License

The MS in Technology degree is granted by the Purdue University Graduate School upon successful completion of all degree requirements.

Coursework:

The necessary coursework for obtaining the Indiana Teaching License in Engineering Technology Education and Computer Education is described separately in the table format. Actual coursework taken will depend on the evaluation of the applicant's undergraduate transcript.

MS in Technology: STEM Education with Computer Education Indiana Teaching License

Courses for Woodrow Wilson Indiana Teaching Fellows 2009-2011--Total 36 credits

Session 2009-11	Courses Taken During This Session
2009-Summer I	CIT 56500 –Teaching Computer Programming, Applications, Communication, and Design (3 cr.) TECH 58100/EDUC-S502 —The Nature of the STEM Disciplines (3 cr.)
2009-Summer II	TECH58100/ EDUC-S504 —Introduction to STEM Teaching (3 cr.) EDUC-P510 —Psychology of Teaching (3 cr.)
2009- Fall	EDUC-M500 —Field Experience in Middle School (0 cr.) EDUC-S509 —Middle School STEM Methods (3 cr.) EDUC-S555 —Diversity and the Communities of all Learners (3 cr.)
2010- Spring	EDUC-M500 —Field Experience in High School (0 cr.) EDUC-S503 —Secondary School Curriculum (3 cr.) EDUC-S518/EDUC-N517 —High School STEM Methods (3 cr.)
2010- Summer I	EDUC-S590 —Professional Issues in Secondary Education (3 cr.) TECH Elective – must choose 300-level, 400-level or graduate level course in Computer Programming, Applications, Communication, and Design (3 cr.)
2010- Summer II	TECH 58100 —Project Lead The Way: Introduction to Engineering Design (3 cr.)
2010- Fall	TECH 58100/ EDUC-Y520 –Directed Project/Strategies for Educational Inquiry (3 cr.)
2011-Spring	Presentation of Action Research at WWITF Conference

**The Computer Education License will only be granted in conjunction with an additional STEM teaching license in Technology Education, Science Education or Math Education.*

MS in Technology: STEM Education with Technology Education Indiana Teaching License

Courses for Woodrow Wilson Indiana Teaching Fellows 2009-2011-- Total 36 credits

Session 2009-11	Courses Taken During This Session
2009-Summer I	TECH 56200 – Teaching Engineering Technology Content and Laboratories (3 cr.) TECH 58100/ EDUC-S502 —The Nature of the STEM Disciplines (3 cr.) PRAXIS REVIEW --- (arranged)
2009-Summer II	TECH58100/ EDUC-S504 —Introduction to STEM Teaching (3 cr.) EDUC-P510 —Psychology of Teaching (3 cr.)
2009- Fall	EDUC-M500 —Field Experience in Middle School (0 cr.) EDUC-S509 —Middle School STEM Methods (3 cr.) EDUC-S555 —Diversity and the Communities of all Learners (3 cr.)
2010- Spring	EDUC-M500 —Field Experience in High School (0 cr.) EDUC-S503 —Secondary School Curriculum (3 cr.) EDUC-S518/EDUC-N517 —High School STEM Methods (3 cr.)
2010- Summer I	EDUC-S590 —Professional Issues in Secondary Education (3 cr.)
2010- Summer II	TECH 56100 —History, trends, and limitations of technology (3 cr.) TECH 58100 —Project Lead The Way: Introduction to Engineering Design (3 cr.)
2010- Fall	TECH 58100/ EDUC-Y520 –Directed Project/Strategies for Educational Inquiry (3 cr.)
2011-Spring	Presentation of Action Research at WWITF Conference