Purdue School of Engineering and Technology
Indiana University-Purdue University
Indianapolis (IUPUI)

Master of Science in Technology
Student Handbook

Department of Technology Leadership and Communication

https://et.iupui.edu/departments/tlc/programs/ols/grad/
https://et.iupui.edu/departments/tlc/programs/tcm/grad/

August 2019-July 2020
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1. Introduction

Welcome to the Master of Science in Technology (MST) degree program at IUPUI. This handbook describes the requirements, policies, and regulations for the MST degree program offered by the Purdue School of Engineering and Technology at Indiana University-Purdue University, Indianapolis (IUPUI). The guidelines and procedures in this handbook will help you move smoothly through your studies, prepare your Plan of Study, meet the degree requirements, and graduate.

The School of Engineering and Technology offers graduate instruction leading to the Master of Science (M.S.) degree that enables you to concentrate your professional studies in technology by pursuing an interdisciplinary selection of classes relevant to your interests or in any of the areas of focus, concentrations, and/or certificates that the school offers.

Concentrations have specific Plan of Study requirements and are listed on your transcript after graduation.

Department of Computer Information & Graphics Technology
Concentration: Information Assurance & Security

Department of Engineering Technology
Concentration: Facilities Management
Concentration: Motorsports

Department of Technology Leadership & Communication
Concentration: Organizational Leadership
Concentration: Technical Communication
Certificate: Human Resources Development

The MST program also offers either a directed project or course-only option. For more information on these options, see section 4 of this handbook.

When you have completed all degree requirements, the Purdue University Graduate School will grant your degree. The Purdue School of Engineering and Technology Graduate Programs Office (http://www.engr.iupui.edu/gradprogs/) works closely with the Purdue University Graduate School in West Lafayette (https://www.purdue.edu/gradschool/) and the IUPUI Graduate Office (http://www.iupui.edu/~gradoff/) in coordinating and administering graduate Technology degrees, certificates, and concentrations.

Additionally, if you are an international student you will have contact with the Office of International Affairs at IUPUI (http://international.iupui.edu/) regarding visas and immigration requirements.

The School of Engineering and Technology Graduate Programs Office in the Dean’s office in ET215 can direct you to the appropriate office for specific questions.
After admission, contact your academic advisor to develop your Master’s Plan of Study before you earn 15 credit hours. The Plan of Study defines the academic program leading to the degree. Meet with the graduate program contact in your department to address questions about requirements, plans of study, or other academic matters.

The sections below provide guidance through the process moving from admission to final graduation. Please refer to this handbook frequently throughout the course of your studies.

2. Applying for Admission
This section provides information about the requirements, types of admission, and opportunities for financial assistantships relative to graduate study in the MST degree at IUPUI.

For application information for domestic and international applicants, visit the graduate admissions website, (http://www.engr.iupui.edu/sites/graduateprograms/admissions/index.php). (Note that after September 3, 2019, this address may change.)

To apply to the MST degree program, submit the following:
• a form on which you provide additional information, found at http://www.engr.iupui.edu/sites/graduateprograms/current-students/_documents/TECH_Supplemental%20Info%20form_fillable_upd%2001-19.pdf
• an electronic application for admission to the Graduate School, found at https://sisjee.iu.edu/sisad-prd/p/Guest.do?methodToCall=start&inst=IUINA&career=GRAD
• references for three letters of recommendation (submitted through the online application form
• a ~400 word statement of purpose indicating your career goals and purposes for pursuing graduate studies
• official original transcripts of all college coursework
• results of the graduate examination required by your desired concentration, focus area, or certificate (as applicable – see Section 8). The TLC graduate programs do not require these scores if you have earned your undergraduate degree from a regionally accredited institution.

If you are an international applicant whose first language is not English, also submit official TOEFL or IELTS scores. For more information on international admissions, visit https://et.iupui.edu/prospective/graduate/admissions/ and scroll down the page.

After you submit all required application materials, an admissions committee in the relevant department reviews the materials to determine if they meet the MST admissions criteria. Departmental graduate admissions decisions typically are based on a combination of
• the quality of your undergraduate work,
• GRE scores (if required),
• letters of recommendation, and
• the overall potential that each student presents as represented in the statement of
The admissions committee examines your background, reasons, and goals for seeking the degree and determines whether you would be likely to be successful in the program.

The TLC Department lists application deadlines on the website, but these dates apply mostly to people who wish to apply for Research Assistantships. For all other students, we practice a “rolling” admissions process in which we try to complete reviews and communicate our recommendations within several weeks of receiving all application materials. However, we recommend applying at least six weeks before the start of a new term so that all materials can be processed in time to enroll for classes. International applicants may require at least 12 weeks for processing.

We admit students in the spring, summer and fall terms, so when applying, please specify when you wish to begin your studies.

**Types of admission recommendations.**
The admission committee recommendation may be one of the following:

- Admit without conditions,
- Admit with conditions for continuing enrollment (and these conditions will be specified),
- Recommend applying for Graduate Non-Degree status and taking courses to demonstrate ability to successfully pursue graduate level work (you must reapply for admission to the School of Engineering and Technology after fulfilling conditions specified), or
- Deny.

Incoming students who have a "B" (3.00/4.00) or better grade point average in prior study are typically admitted without conditions.

After this initial review, MST admission recommendations are forwarded to the School of Engineering and Technology Associate Dean for Graduate Studies for review and recommendation to the Purdue University Graduate School for official approval of admission.

You will receive an e-mail communicating the recommendation of the admissions committee, typically several weeks after all materials are submitted.

**Financial assistance**

*Availability*

A limited number of research assistantships, which include a modest stipend, basic health insurance, and a tuition waiver, are available from the TLC Department. If you are interested in an assistantship, get in touch with the Graduate Chair early in the spring term.

*Graduate Research Assistantship Appointments*
In order to provide an opportunity for you to progress satisfactorily toward your degree objective, a limited number of graduate research appointments may be offered for one-half time (about 20 hours/week) and for a maximum of two academic years. Renewal of graduate appointments for a second year will be based on satisfactory performance in the position and academic progress toward Plan of Study requirements, as well as the availability of funding.

Research Assistantships (RA) include a tuition waiver during the term of the assistantship.

Assistantships do not cover the cost of student fees assessed each term. You will be responsible for those fees.

3. Getting Started after Admission
Once you have been formally admitted, the School of Engineering and Technology Graduate Programs Office will send you an admission and enrollment notification by e-mail.

If you have questions regarding advising and registration, contact your department.

IUPUI e-mail is the primary mode of communication that the Office of Graduate Programs uses to communicate with you. If you typically use another e-mail account, set up your IUPUI account to forward messages to your most-commonly-used account.

To be prepared for registration, review Chapter 8 in this handbook to learn about the program, its requirements, and the courses. Activate your IUPUI username to register. In addition, consult the following:

• Schedule of Classes. The official Course Offerings for each term are accessible in the Student Center area of One.IU (https://one.iu.edu/), the gateway to the university’s web-based Student Information System (SIS). From here, you can search for the Schedule of Classes as well as the course registration system. If you need assistance with registration, contact your advisor.

Consult with your advisor to decide which courses to take in your first term. When you have your class schedule prepared and are ready to register, go to One.IU (https://one.iu.edu) and search for Class Registration.

4. Understanding the MS Technology Degree and Requirements
The Master of Science in Technology (MST) program requires a minimum of 33 credit hours.

It is designed so that graduates holding a B.S. degree in a technology discipline or a related area can complete their degree as either a full time or a part time student. The program can typically be completed in four terms (two academic years) of full-time study.

The MST degree has two options: Directed Project or Course-Only.

• The Directed Project option requires 30 hours of coursework and three credit hours of an individual Directed Project (see Appendix A for details).
• The Course-Only option requires 33 hours of coursework.

The TLC Plans of Study within the MST require you to complete nine credit hours of core courses, as listed in the table below. (See section 8 of this handbook for Plan of Study details.)

<table>
<thead>
<tr>
<th>Credit Hour Requirements</th>
<th>Course Only Option</th>
<th>Directed Project Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Core Technology Courses</td>
<td></td>
<td></td>
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<tr>
<td>• TECH 50700 Measurement &amp; Evaluation in Industry and Technology</td>
<td>9</td>
<td>9</td>
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<tr>
<td>• TECH 50801 Quality and Productivity in Industry &amp; Technology or TCM 51000 Effective Workplace Technical Communication or OLS 53010 Mixed Methods Research</td>
<td></td>
<td></td>
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<tr>
<td>• OLS 57100 Advanced Project Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Related Area of Study (see notes)</td>
<td>24</td>
<td>21</td>
</tr>
<tr>
<td>Directed Project</td>
<td>None</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>

Notes: The related area of study must include graduate level courses from an approved course list offered by Technology or other departments. See your academic advisor for requirements in your focus area, concentration, or certificate. More than 50% of all the coursework must be from a Purdue School. Some course numbers are pending approval at this time.

Choosing the Directed Project Option
If you wish to pursue an independent applied research project in your area of interest or specialization, under the direction of an academic advisor, select the Directed Project option. You will take 30 hours of coursework in addition to the directed project, which is worth three credit hours. For more details on the Directed Project, see Appendix A (to be added later).

Choosing the Course-Only Option
In consultation with your advisor, you may choose to complete 33 hours of relevant courses in order to earn the MST.

Completing the MST within Time Limitations
If you take courses on a full-time basis, you can typically complete the degree requirements in about two years. However, if you elect to take courses on a part-time basis, that choice will extend the time to degree completion.

We expect that you will complete the degree in five years from the time you first enroll.

If you do not enroll in courses for three consecutive terms, you may be required to submit a new Plan of Study or may be dismissed from the degree program. In this case, you will be automatically placed in inactive academic status.

Re-enrolling after being placed on inactive academic status
If you are placed on inactive academic status and you wish to re-enroll, submit an IUPUI graduate application plus one current recommendation from an MST faculty member. You do not need to submit the other supporting application materials.
After submitting this application for re-admission, wait for the Purdue University Graduate School to approve your re-admission officially before enrolling for classes.

If you enroll in and take a class before the Graduate School approves your new application for re-admission, those courses will be considered invalid and will not count toward the MST degree.

**Achieving minimum grade requirements**
To be in good academic standing, you must maintain a cumulative grade point index of at least 3.00 out of 4.00 in the courses on your Plan of Study.

If you are not in good standing at the end of a term, you will be automatically placed on the academic checklist and sent a warning letter.

If you are on the academic checklist, you must meet with your advisor and complete the form “Request for Temporary Checklist Clearance” so that you can register for the coming term.

If your cumulative grade point index remains below 3.00 at the end of the next term, you will be placed on probation, which means that you may not be able to register for further graduate courses until the Technology Graduate Committee reviews and approves your case.

If you take a course more than once while enrolled as a graduate student, only the most recent grade received in the course will count in computing the grade point average.

Transfer courses are not included in the computation of the cumulative grade point average.

To earn the MST degree, you must achieve a final cumulative grade point index of 3.00 or higher in courses that are on the Plan of Study.

If you earn a grade of “F” in a course that is on the approved Plan of Study, you must repeat the course and receive a grade of C or higher as well as achieving an overall 3.00 GPA in the courses on your Plan of Study.

**Demonstrating English language proficiency for international students**

*Taking the English for Academic Purposes (EAP) placement test*
According to IUPUI policy, most international students who are non-native speakers of English must take the English for Academic Purposes (EAP) Placement Test prior to registering for classes, even if you have taken the TOEFL.

Your letter of admission from the Office of International Affairs will indicate if you are required to take this test. If you obtain a TOEFL iBT score of 100 or higher and obtain an IELTS score of 7.5 or higher, you do not have to take the EAP test.
You are required to take all of the courses the placement test results determine and receive passing grades in those courses. You must begin taking the first English language course in the first term of enrollment and complete the requirements in sequence before graduation.

One exception applies: If you are placed into English G013 “Reading/Writing for Academic Purposes,” you may replace G013 by taking TCM 46000 “Engineering Communication in Academic Contexts”.

If you do not complete these English requirements, you will not be approved for graduation.

If you believe that the results of the first EAP exam do not reflect your English abilities accurately, you may take it a second time within the first two weeks of beginning classes. If you decide to retake the EAP examination, the results of the second exam will determine your placement. A third examination will not be an option.

**Completing the SPEAK Test (for International Graduate Teaching Assistants)**

If you are a non-native speaker of English, you must take a test relating to your oral English proficiency before you are assigned duties that involve direct student contact (teaching assistants, laboratory assistants, graders, and tutors). You must take and pass the SPEAK Test, a nationally standardized test, before you are given an academic appointment.

If you are not able to obtain the required minimum scores, you will take an ESL course, G020 “Communication Skills for International Teaching Assistants” (3 units) and take the SPEAK test again before you can accept your appointment.

**5. Selecting a Master’s Advisor and/or Advisory Committee**

**Selecting a Major Professor/Advisor**

You will be assigned an initial advisor upon admission who will help in establishing a timely and effective beginning to your program.

If you have elected to complete a Directed Project, you will determine who you would like to serve as your major professor and academic advisor. The major professor serves as your advocate, mentor, and supervisor.

This advisor will guide the development of a Plan of Study which is unique to each student. The major professor will become the most important contact person, and the major professor/student relationship must be a mutually acceptable one.

This advisor should be associated with your area of specialization and must have a Regular (R.1, R.2, R.3, R.3A, R.5, R.5A, R.6) or Special 1 (S.1) Appointment from the Purdue Graduate School.

When you complete your Plan of Study (see Chapter 6), include this advisor’s name.
Selecting an Advisory Committee
You and your major professor will select at least two more people for your advisory committee who will assist you in preparing the Plan of Study and offer advice during your graduate work. They will also review your Directed Project and participate in the final oral exam. Your initial advisor will help you to become acquainted with potential faculty members to serve on your advisory committee.

When you complete your Plan of Study (see Chapter 6), you will also complete part of the form that lists the members of your advisory committee. Discuss the Plan of Study with your preferred potential advisory committee members and secure their permission to list them on the Plan of Study before you submit the plan for signatures. These people also need to have Regular (R.1, R.2, R.3, R.3A, R.5, R.5A, R.6) or Special 1 (S.1) Appointments.

The advisory committee consists of three members of the graduate faculty. The major professor and at least one other member should be from the School of Engineering and Technology graduate faculty. The third member may represent a related subject area from your Plan of Study. This member must also be a member of the Purdue University graduate faculty. Members of the committee need not be faculty with whom you have taken course work. Contact your academic advisor for recommendations for appropriate graduate committee members.

A co-advisor may be designated when advantageous and where it can build faculty experience in advising. If your Plan of Study and/or Directed Project would be significantly improved by the expertise of a faculty member or a person outside of the university, you and your major professor may request consideration for special certification for such service. Such requests require a rationale and description of the expertise. Rout the request to the Purdue Graduate School via the School of Engineering and Technology Graduate Programs Office (ET 215).

If possible, begin selecting your advisory committee during your first term and be sure it is complete by the end of your second term if you are a full-time student. The committee will help you develop the Plan of Study and review/approve your directed project proposal, if applicable, which must be approved before work on the project may begin.

6. Completing the Plan of Study
Faculty members in the MST program believe that advanced study should be tailored to individuals and their professional and intellectual objectives. Thus, the Plan of Study is unique to each student's needs and desires.

To facilitate an individually tailored program, each Master’s degree Plan of Study consists of a primary area and one or more related areas.

Developing the Plan of Study begins when you register for your initial courses. Your advisor and/or major professor will discuss your background, interests, and degree objectives as you
prepare for the first enrollment. The advisor will also recommend possible related areas and advisors. Advisors should maintain a list of potential IUPUI courses, and appropriate faculty contacts, relevant to their areas, in order to assist graduate students in developing their Plan of Study.

The online Plan of Study form must include all courses you will take to meet the degree requirements. Include the names for the primary and related areas of study; the course number, course title, and credits for each course; and the date when the course was or will be completed.

Each member of your advisory committee and you will sign the Plan of Study. After review, the Dean for Graduate Studies also signs the plan. The plan is then submitted to the Graduate School for formal approval.

You and your major professor should periodically access the approved Plan of Study and review your progress towards completion.

After an approved Plan of Study is on file, you can make committee and course changes by completing the appropriate steps; the latest you can make changes is by the end of your second-to-the-last term before graduation.

Completing Core Course Requirements (Primary)
All Master of Science in Technology plans of study will have a primary area of nine credit hours including the following core courses.

- TECH 50700 Measurement and Evaluation in Industry and Technology
- TECH 50801 Quality and Productivity in Industry and Technology or TCM 51000 Effective Workplace Technical Communication or OLS 53010 Mixed Methods Research
- OLS 57100 Advanced Project Management

If you need to request an exception to these courses, discuss acceptable substitutes with your advisor.

Completing Related Area Requirements
Each Plan of Study must include 21-24 credit hours of courses from your Related area (21 if doing completing a directed project, 24 if pursuing a course-only option). Related area courses are based on your concentration (such Organizational Leadership or Technical Communication) or area of focus.

If pursuing a Concentration, see section 8 of this handbook to learn about the course requirements for the concentration you wish to pursue.

Include only courses at or above the 500 level.
Independent Study credit
You may include a maximum of 6 term hours of independent study credits in your Plan of Study.

Full-time study requirements for International Students with F-1 visas
To maintain F-1 visa status, you must enroll full-time (at least eight credit hours) each fall and spring term. You do not need to enroll in summer terms, but you may. Additionally, you are allowed to enroll in one on-line course each term except for the final term of study, during which you cannot enroll in an online course.

Determining if other courses can be included in your Plan of Study
In addition to the courses you plan to take while earning the MST, you may be able to include courses you have already taken to your Plan of Study. These additional courses may include:

- undergraduate excess credit from graduate level courses,
- transfer credit, and/or
- post-baccalaureate registrant credit (Graduate Non-Degree -- GND).

You can include up to 15 credit hours of courses (total) in these three categories in your Master's Degree Plan of Study. Only 12 of these 15 credits can come from Undergraduate Excess Credit and/or Post Baccalaureate Registrant (GND) courses.

Details about each of these categories follow.

Including Undergraduate Excess Credit
If you earned your undergraduate degree at IUPUI, and if you took 500-level graduate courses in excess of your undergraduate degree course requirements, you may apply a maximum of 12 term hours of such credit to your Plan of Study if the courses meet the following conditions:

- You declared the course as graduate work at the time that grades were filed for that term.
- You took the course during your senior year;
- You received a grade of at least "B" in the course;
- The course was designated as a graduate course;
- You performed your work in the course at the level required for graduate students in the course, and
- Your advisory committee approves including these credits.

Including transfer credit in your Plan of Study
In your Plan of Study, you may include a maximum of half the required course credit hours (15) earned at another accredited institution or from any non-Purdue schools at IUPUI.

Graduate School policy states that all courses transferred

- must be acceptable for graduate credit at the school at which they were taken,
- must not have been used to meet the requirements for another earned degree, and
- must have been completed with a grade of “B” or better.
To include these transfer courses in your Plan of Study, submit to your advisor a catalog description of the course and an official transcript showing completion of the course with the grade received (B or better only).

Grades from transfer courses will not be included in computing the graduate GPA. Your advisory committee must approve including these courses in your Plan of Study.

Including Graduate Non-Degree Credit (Post-Baccalaureate Registrant Credit)
The Graduate School has created an enrollment category known as graduate non-degree (GND) to enable people who have a bachelor's degree to enroll in graduate courses without being officially admitted to a graduate program.

You can include a limited amount of credit earned in this category on your Plan of Study at the discretion of the advisory committee, the recommendation of the Assistant Dean for Graduate Studies, and the approval of the Graduate School.

You can include a maximum of 12 term hours of GND graduate credit in your Plan of Study. In order to include a course, you must have earned at least a B.

Preparing and Filing the Master’s Plans of Study
Before you complete 15 credit hours toward the MST, contact your advisor for assistance in preparing the Master’s Plan of Study online.

If you were admitted with conditions, you must have met them or be in the process of meeting them at the time you submit the Plan of Study.

If you have not met all of the conditions, the head of the graduate program or the department chair must create a written statement explaining why the condition(s) have not been met and/or the resolution to the conditions, if relevant.

To file the Plan of Study for approval, follow these steps.

1. Review the portions of this handbook to determine the requirements for the option (concentration, focus area, and/or certificate as well as direct project option or course-only option) you wish to pursue. Select courses that meet the degree requirements, and are appropriate for your area and interest. If possible, check that the courses you need will be offered at a time when you wish to take them.

2. Prepare a draft of your Plan of Study (sample included in Appendix B).
   a. Indicate courses in your primary (core) area with a “P” in the left column labeled “Area.” List primary area courses together as a group.
   b. Indicate related area courses with an “R” in the “Area” column. List related area courses together as a group.

3. Select a faculty member as your major professor and the chair of your advisory committee. Confer with him/her for advice on the Plan of Study and his/her informal
agreement to the plan when it is submitted in final format.

4. In consultation with your major professor, select two additional faculty members to serve on your graduate advisory committee if you are completing a Directed Project.

5. Activate your Purdue Career Account if you have not already done so. Instructions for doing so are contained in an e-mail you received several months after admission.

6. Prepare and submit an on-line Plan of Study following the instructions at http://graduate.iupui.edu/doc/forms/plan-of-study-purdue.pdf

The online system will route your plan to your committee members and the graduate office for approval.

After the Plan of Study is officially approved, if you wish to make changes, complete a “Change to the Plan of Study” GS Form 13 found in the list at http://engr.iupui.edu/sites/graduateprograms/current-students/forms.php.

Registering for your final term
Register for Candidacy in the final term indicated on your Plan of Study.

In the final term
- Enroll in at least one credit of fee-bearing coursework, i.e. a regular course(s) or a directed project,
- Register for CAND 99100 Candidate to declare your status as a “candidate for degree”. CAND 99100 has no credit and zero cost.

If graduation is cancelled or postponed, in subsequent term(s)
- Enroll in at least 1 credit of fee-bearing coursework, i.e. a regular course(s) or a directed project,
- Register for CAND 99200 to declare your status as a “candidate for a degree”

7. Overall Master’s Degree Procedural Checklist
This checklist will help you map a path through the MST. This checklist provides a general picture of the process, but there may be individual exceptions.

Specific and official deadlines are announced each term, will be emailed to all MST graduate students, and are available from the School of Engineering and Technology Graduate Office or from the E&T Graduate Programs Office website

Prior to the First Term
1. Be aware of admission condition(s), if any, which must be satisfied.
2. Study the graduate handbook carefully. With the help of your major professor, discuss your career and educational objectives and draft a preliminary Plan of Study.
3. Register for classes. See the enrollment packet that you received after admission for instructions on how to register. In addition, complete the steps needed for obtaining an ID card and a parking permit, if needed. Instructions for doing so are also included in the
Succeeding Terms

1. Select an advisor/major professor and, if you will be completing a Directed Project, at least two graduate faculty members for your advisory committee.
2. Activate your Purdue Career Account, following the instructions you received via e-mail several months after admission.
3. Discuss the preliminary Plan of Study with your advisors (and each of the members of the advisory committee if you have one.)
4. Submit a draft Plan of Study to your committee members. (http://graduate.iupui.edu/doc/forms/plan-of-study-purdue.pdf)
5. Refine the Plan of Study, if needed, based on the committee’s suggestions.
6. If you have admission condition/s, ensure that you have met the condition/s.
7. Submit your final Plan of Study using the instructions at http://graduate.iupui.edu/doc/forms/plan-of-study-purdue.pdf
8. Identify a tentative directed project if you are pursuing this option.
9. Register for classes for the next term. This option is usually available about halfway through a term.
10. Apply for graduation before the start of your last term. Watch for the deadline; it comes early in the term. For the form, visit https://et.iupui.edu/prospective/graduate/current-students

Final Term

1. Register for the remaining courses on your Plan of Study.
2. Register for Candidacy (CAND) 99100 to declare your status as a “candidate for degree” plus a minimum of 1 credit hour of a fee-bearing course. CAND 99100 is a “no credit, no cost” registration. (CAND 99200 and 99300 may only be used in exceptional cases with approval of the IUPUI Graduate Office.)
3. Insure that any changes in your Plan of Study have been approved.
4. Defend your Directed Project, if you have chosen that option.

8. Department of Technology Leadership and Communication Information

Core Requirements
The Department of Technology Leadership and Communication (TLC) believes that graduate students should acquire the necessary knowledge, skills and abilities to make data-guided decisions in an increasingly diverse, global, and interdisciplinary world. Therefore, courses in quantitative research methods, project management, and quality and productivity are included in the TLC required core courses.

Additionally, the TLC department believes that you should have multiple pathways to academic and career success. We have created a flexible degree program that allows you to take TLC graduate courses and receive an academic certificate in Human Resource
Development and/or the MS in Technology (MST) degree. Along with required core courses, you can focus on Human Resource Development, Leadership, and/or Technical Communication, supplemented by courses from related fields. The table below presents required and related coursework requirements for TLC MST programs.

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<th>Credit Hour Requirements</th>
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<td></td>
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</tr>
<tr>
<td>• OLS 57100 Advanced Project Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Courses in a Related Area of Study</td>
<td>24</td>
<td>21</td>
</tr>
<tr>
<td>Directed Project</td>
<td>None</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>

These core courses may be offered online, partially online (hybrid), or in face-to-face formats. Details for a specific term are available in the campus Schedule of Courses.

Each course is worth three credit hours.

Core course descriptions:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLS 57100</td>
<td>Advanced Project Management in Technology</td>
<td>This course enables the student to learn project management through the application of project approaches in a team based setting. Through the application of project tools and templates, the student learns the project life-cycle approach as demonstrated through actual and simulated project situations. The course presents the terms and approaches used in industry today and allows the student to apply these methods through both individual and team based settings.</td>
</tr>
<tr>
<td>TCM 51000</td>
<td>Effective Workplace Technical Communication</td>
<td>This course applies principles of professional technical communication in industrial, technological, and business settings, with emphasis on adapting to organizational audiences, selecting and organizing ideas, managing communication projects, and communicating clearly and effectively.</td>
</tr>
<tr>
<td>OLS 53010</td>
<td>Mixed Methods Research</td>
<td>The purpose of this course is to provide an overview of mixed methods research. It is designed for students who are interested in integrating qualitative and quantitative methodologies into singular or sequential research studies or programs of inquiry. The overview includes the philosophy and evolution of mixed methods research, purposes and characteristics of mixed methods research, research designs and corresponding questions and data analysis techniques.</td>
</tr>
<tr>
<td>TECH 50700</td>
<td>Measurement and Evaluation in Industry and Technology</td>
<td>An introduction to measurement strategies in industrial, technical, and human resource development environments. The evaluation of measurement outcomes will be the primary focus of the course.</td>
</tr>
<tr>
<td>TECH 50801</td>
<td>Quality and Productivity in Industry and Technology</td>
<td>This course examines the process optimization utilizing contemporary quality and systems engineering methodologies, specifically Six Sigma, Lean, Toyota Production System (TPS) and Constraint Management. Direct application of principles to an industry field project is required. This course covers optimization and management of production, service and transactional processes. Prerequisite: TECH 50700 or instructor permission.</td>
</tr>
</tbody>
</table>

**Certificate in Human Resource Development**

The TLC department offers a graduate certificate in Human Resource Development (HRD). This Certificate will provide you with skills that qualify for specialized professional and managerial positions, such as:

- HR/HRD generalist with early career experience
- Manager or supervisor of training/HRD related functions
- Government employee involved in workforce/career related areas
- Nonprofit training/HRD professional
- Current or aspiring consulting firm employee
- Training professionals/specialist
- Manager/executive interested in employee and organizational development

Housed in the Department of Technology Leadership and Communication, the Graduate Certificate in HRD requires 12 credit hours, including three required courses (9 credit hours total) and one elective (3 credit hours total).

The table below provides an overview of the graduate Certificate in Human Resource Development.

<table>
<thead>
<tr>
<th>Course Requirements – Human Resource Development Certificate</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Core Courses</td>
<td>9</td>
</tr>
<tr>
<td>• OLS 57400—Managerial Training and Development (3 credits)</td>
<td></td>
</tr>
<tr>
<td>• OLS 51500—Foundations of Human Resource Development (3 credits)</td>
<td></td>
</tr>
<tr>
<td>• OLS 58200—Leadership and Organization Change (3 credits)</td>
<td></td>
</tr>
<tr>
<td>Elective (see note)</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>12</td>
</tr>
</tbody>
</table>

**Note:** The elective must be three credit hours of graduate level coursework from the Purdue School of Engineering and Technology or another IUPUI school or graduate program. Your advisor must approve this course and it must be appropriate for the HRD Certificate.

To apply for admission to the HRD Certificate program, submit

- The IUPUI Graduate Admissions Application found at [https://sisjee.iu.edu/sisad-prd/p/Guest.do?methodToCall=start&inst=IUINA&career=GRAD](https://sisjee.iu.edu/sisad-prd/p/Guest.do?methodToCall=start&inst=IUINA&career=GRAD)
- A statement of your purpose and goals
- Evidence of an undergraduate degree with at least a 2.75 GPA
- One letter of recommendation
Send the last two items to  
IUPUI  
Purdue School of Engineering & Technology  
Graduate Programs Office  
799 West Michigan Street, ET 215  
Indianapolis, IN 46202  
U.S.A.

You may earn this certificate while earning the MS in Technology. Courses will count toward both the MS degree and the HRD Certificate. Both the degree and the certificate will appear on your transcript after graduation.

If you are applying for the HRD Certificate and the MST at the same time, please see a TLC advisor for details on how to do so.

Concentrations
Concentrations within the MST offer an opportunity to specialize in an area that fits your career goals. After graduation, the Concentration will appear on your transcript. TLC offers two Concentrations, one in Organizational Leadership and one in Technical Communication, as described below.

Organizational Leadership Concentration
Leadership in science, technology, engineering and mathematics (STEM) is more and more important to organizational competitiveness, sustainability and success. The MST Concentration in Organizational Leadership (OL) provides opportunities for those who desire leadership roles in business, government or industry. Specifically the objectives of this concentration are:

- To provide a program that generates and disseminates knowledge about leadership within the context of STEM expertise
- To make sure that graduates possess the knowledge, skills, abilities, resources, and perspectives necessary to be effective leaders in STEM and STEM-related professions
- To enhance economic opportunities for graduates and the organizations where they are employed
- To engage in research, scholarship, and creative endeavors that add knowledge to the discipline of leadership

Courses in leadership theory and application, ethics, managerial training and development, organizational change, coaching and mentoring, project management, conflict management and coaching, international leadership, sustainability and related leadership development areas will be available to students who choose the Leadership area of focus. The table below provides an overview of core and related courses that students in this focus area take.

Requirements for an Organizational Leadership Concentration include

<table>
<thead>
<tr>
<th>Credit Hour Requirements</th>
<th>Course-Only Option</th>
<th>Directed Project Option</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Required Core Technology Courses
- TECH 50700 Measurement & Evaluation in Industry and Technology
- TECH 50801 Quality and Productivity in Industry & Technology or TCM 51000 Effective Workplace Technical Communication or OLS 53010 Mixed Methods Research
- OLS 57100 Advanced Project Management

<table>
<thead>
<tr>
<th>Course/Option</th>
<th>Spring</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>TECH 50700</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>OLS 57400 Managerial Training &amp; Development <em>Spring</em></td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>OLS 50100 Leadership Ethics <em>Spring</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLS 58000 Interpersonal Skills for Leaders <em>Fall</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLS 58200 Leadership and Organizational Change <em>Fall</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OLS 58300 Coaching &amp; Mentoring in Organizations <em>Spring</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OL Concentration Courses
- OLS 57400 Managerial Training & Development *Spring*
- OLS 50100 Leadership Ethics *Spring*
- OLS 58000 Interpersonal Skills for Leaders *Fall*
- OLS 58200 Leadership and Organizational Change *Fall*
- OLS 58300 Coaching & Mentoring in Organizations *Spring*
- Relevant Electives (3 courses)

<table>
<thead>
<tr>
<th>Directed Project</th>
<th>None</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Credits</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>

Note: The related area of study must include courses from an approved course list offered by the Purdue School of Engineering and Technology or other approved academic units. See your academic advisor for requirements in your area of focus.

Technical Communication Concentration
With the expanding sophistication of the processes and technical requirements of Technical Communication, the need for technical communicators who have expertise in communication and a solid foundation in technology and technical concepts is growing.

An MS in Technology with a focus area in Technical Communication prepares graduates for roles such as
- Technical Writer/Communicator
- Technical Editor
- Usability Specialist
- Web Designer
- Multimedia Content Developer
- Technical Trainer
- Technical Communication Manager

While pursuing the MS in Technology with a Concentration in Technical Communication, in addition to the core courses and Concentration course, you may take courses in...

Effective Workplace Technical Communication
Teaching Technical and Professional Communication

Courses currently in the approval process may be offered with an OLS 58100 course number. Check the campus Schedule of Courses for details about a specific term.

Requirements for a Technical Communication Concentration include:

<table>
<thead>
<tr>
<th>Credit Hour Requirements</th>
<th>Course-Only Option</th>
<th>Directed Project Option</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Required Core Technology Courses
- TECH 50700 Measurement & Evaluation in Industry and Technology
- TECH 50801 Quality and Productivity in Industry & Technology or TCM 51000 Effective Workplace Technical Communication or OLS 53010 Mixed Methods Research
- OLS 57100 Advanced Project Management

<table>
<thead>
<tr>
<th>Technical Communication Concentration courses</th>
<th>9</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCM 53000 Advanced Visual Technical Communication Spring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCM 54000 Advanced Managing Document Quality Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCM 55000 Advanced Research Approaches for Technical &amp; Professional Communication Spring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevant Electives (5)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Focus Area
A focus area includes coursework related to a specific discipline or topic in addition to the MST core courses. Focus areas do not appear on your final transcript, but they provide you with a flexible plan of study to fit your interests and career goals.

**Human Resource Development Focus**
Given the dynamic global changes to the knowledge economy and the needs for an agile and vibrant workforce worldwide, human resource development (HRD) has become an increasingly important field of research and practice. The increasing demand for HRD-related professional and academic backgrounds and training is becoming particularly obvious in urban settings. Specifically the objectives of HRD area of focus are:

- To enrich your capacity to
  - develop HRD-related knowledge;
  - understand HRD-related theory;
  - investigate HRD-related research; and
  - develop related competencies associated with HRD practice.

- To enhance the scholarship of graduate students who are interested in the knowledge, theory and practice elements of HRD including: management, public affairs, education, engineering, health care, communication, and psychology.

- To augment the professional development of individuals who seek an academic or industry focus in HRD as a way to support a career in HRD or to support professional and managerial development as it relates to HRD for employees, subordinates or other roles related to individual professional interests.

Courses in managerial training and development, foundations of human resource development, organizational change, project management and related human resource development areas will be available to students who choose the HRD area of focus. The table below provides an overview of core and related courses that students in this focus take.

An HRD focus typically includes
Credit Hour Requirements

<table>
<thead>
<tr>
<th>Required Core Technology Courses</th>
<th>Course-Only Option</th>
<th>Directed Project Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>TECH 50700 Measurement &amp; Evaluation in Industry and Technology</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>TECH 50801 Quality and Productivity in Industry &amp; Technology or TCM 51000 Effective Workplace Technical Communication</td>
<td>24</td>
<td>21</td>
</tr>
<tr>
<td>Courses in a related area of study which may include: OLS 57400—Managerial Training and Development (3 credits) OLS 51500—Foundations of Human Resource Development (3 credits) OLS 58200—Leadership and Organization Change (3 credits) Electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directed Project</td>
<td>None</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>

Note: The related area of study must include courses from an approved course list offered by the Purdue School of Engineering and Technology or other approved academic units. See your academic advisor for requirements in your area of focus.

If you are pursuing the HRD Certificate along with the HRD focus, the courses that you take for the Certificate will count toward the MS in Technology with an HRD focus area, and vice versa. However, in order to fulfill the MS in Technology requirements, you will take courses in addition to those required for the HRD Certificate. Check with your advisor for details.

**TLC graduate course descriptions**
The following approved graduate courses will count toward the requirements of the MS in Technology with a focus on Leadership and/or Human Resource Development. All courses are worth three credit hours unless indicated otherwise.

**Organizational Leadership courses**

<p>| OLS 50100 | Leadership and Ethics | An examination of ethical, legal and policy issues facing business and technology leaders. Topics include ethical decision-making, corporate social responsibility, codes of ethics, public policies and government regulations, international business practices, technology innovation, risk management in a global environment, and specific areas of law-employment, health and safety, environmental, contract, warranties and liabilities, intellectual property, technology law, and international laws and regulations. This course uses the case study method and involves active discussion and debate. |</p>
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLS 51500</td>
<td>Foundations of Human Resource Development</td>
<td>A survey course emphasizing the human resource function (and its development) in the context of the work organization. Human resource development topics include exploration of various training and development techniques, the relation of training to organizational strategies, training needs analysis, evaluation of training, and career development. The strategic approach to human resource management also is covered, including what human resource professionals can and should do to help the organization succeed.</td>
</tr>
<tr>
<td>OLS 53010</td>
<td>Mixed Methods Research</td>
<td>The purpose of this course is to provide an overview of mixed methods research. It is designed for students who are interested in integrating qualitative and quantitative methodologies into singular or sequential research studies or programs of inquiry. The overview includes the philosophy and evolution of mixed methods research, purposes and characteristics of mixed methods research, research designs and corresponding questions and data analysis techniques.</td>
</tr>
<tr>
<td>OLS 57400</td>
<td>Managerial Training &amp; Development</td>
<td>Review of current managerial education and development theories and practices; discussion of fundamental social, economic, and political changes affecting business and the work of managing; implications of these changes for individual manager development and continued growth.</td>
</tr>
<tr>
<td>OLS 58000</td>
<td>Interpersonal Skills for Leaders</td>
<td>Development and improvement of interpersonal dynamic skills for effective leadership in organizations. Emphasis on action learning and real-world application of skills.</td>
</tr>
<tr>
<td>OLS 58100</td>
<td>Workshop in OLS (variable credit hours)</td>
<td>Courses using this number may cover special topics, an independent study, or a directed project.</td>
</tr>
<tr>
<td>OLS 58200</td>
<td>Leadership &amp; Organizational Change</td>
<td>This course explores issues in leadership and organizational change. Included are change theories, utilizing resistance to change, contemporary approaches to change, the future workplace, and researching best practices in organizational change.</td>
</tr>
<tr>
<td>OLS 58300</td>
<td>Coaching &amp; Mentoring in Organizations</td>
<td>This course explores issues and practices in technologically driven organizations pertaining to the roles and functions that coaching and mentoring play in employees development. The focus of the course is on identifying coaching opportunities, enhancing communication skills, developing and implementing coaching and mentoring strategies, and evaluating the outcomes of these strategies.</td>
</tr>
</tbody>
</table>

**Technical Communication Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCM 50500 (Pending approval)</td>
<td>Preparing for Career Transitions: Creating an ePortfolio</td>
<td>The purpose of the course is to help graduate students to reflect on their work and to present evidence of their knowledge, skills, and professional attributes to prospective employers. Abilities to reflect and present apply throughout one’s career in rapidly changing workplace contexts. In this course, students will learn about the role of e-portfolios in presenting work to prospective employers, reflect on their goals and abilities, and learn principles of effective e-portfolio design.</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>TCM 51000</td>
<td>Effective Workplace Technical Communication</td>
<td>This course applies principles of professional technical communication in industrial, technological, and business settings, with emphasis on adapting to organizational audiences, selecting and organizing ideas, managing communication projects, and communicating clearly and effectively.</td>
</tr>
<tr>
<td>TCM 52000</td>
<td>Teaching Technical and Professional Communication</td>
<td>This course is intended for graduate students who wish to learn the theory and practice of teaching technical and/or professional communication at secondary or post-secondary levels.</td>
</tr>
<tr>
<td>TCM 53000</td>
<td>Advanced Visual Technical Communication</td>
<td>This course is intended for graduate students who wish to learn the theory and practice of visual technical communication.</td>
</tr>
<tr>
<td>TCM 54000</td>
<td>Advanced Managing Document Quality</td>
<td>Students examine and apply principles of creating a technical or professional publication from start to finish. Students also explore and practice publication quality management issues such as planning, researching audience and content, designing the publication, drafting, obtaining reviews, conducting usability testing, and negotiating within organizational cultures.</td>
</tr>
<tr>
<td>TCM 55000</td>
<td>Advanced Research Approaches for Technical &amp; Professional Communication</td>
<td>This course is intended for graduate students who wish to learn the theory and practice of conducting applied research in technical and/or professional communication.</td>
</tr>
<tr>
<td>TCM 56000</td>
<td>Engineering &amp; Scientific Communication in Academic Contexts.</td>
<td>This course is designed to help students develop the reading, writing, and speaking skills necessary for academic success as engineering and science graduate students. In this course, we analyze examples of written documents and oral presentations to determine how they are structured and what kinds of claims and evidence they use. Students will simulate these presentations and write similar documents to gain practical experience for successful writing and speaking in academic engineering and scientific contexts.</td>
</tr>
</tbody>
</table>

Many of these courses are offered online, partially online (hybrid), or in face-to-face formats. Details for a specific term are available in the campus Schedule of Courses.

Additional courses are in the process of being approved, so check the campus Schedule of Courses for details about course offerings in a given term. Courses in the process of being approved will be offered with the OLS 58100 designation.

**For additional TLC information**

For additional information related to graduate certificates, courses, concentrations, or focus areas offered by the Department of Technology Leadership and Communication, get in touch with:

* Marjorie Rush Hovde, PhD  
  Associate Professor of Technical Communication  
  Chair of the TLC Graduate Programs  
  Department of Technology Leadership and Communication
Purdue School of Engineering and Technology  
ET 324F  
799 W. Michigan St. Indianapolis, IN  46202  
317-274-0825  
mhovde@iupui.edu

Brandon Sorge, PhD  
Assistant Professor of STEM Education  
Co-Chair of the TLC Graduate Programs, Director of the HRD Certificate  
Department of Technology Leadership & Communication  
Purdue School of Engineering & Technology  
ET 324G  
(317) 274-7029  
bsorge@iupui.edu