



NORTHWESTERN UNIVERSITY  
TRANSPORTATION CENTER

## **Undergraduate Minor in Transportation and Logistics**

### **TRANS 310: SEMINAR IN TRANSPORTATION AND LOGISTICS**

#### **Instructor**

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#### **Enrollment**

This is a one credit course with enrollment in the Spring Quarter of the senior year. However, class activities occur during the entire senior year. Students who are graduating in a quarter other than June or August, should discuss with the instructor modifying the due dates for the assignments. We have plenty of experience customizing the course based on the student's final three quarters at Northwestern.

For WCAS students in the class of 2027 and later, this class fulfills the WCAS Advanced Expression requirement.

#### **Course Summary**

This capstone course is the culmination of the Minor. It brings together the knowledge gained from other courses. Unlike the technical courses, this course is designed to emphasize the relationship of theory to the real world, and to recognize the interdisciplinary nature of the degree.

The important thing to remember is that while the course comprises class meetings, seminars and paper writing, the overall workload expected is similar to that of a regular one-credit course.

#### **Evaluation**

Evaluation is based on two extended papers and on class participation.

## Curriculum

There are three components to TRANS 310:

1. Class / Seminar attendance (spread throughout year)
  - 1a. Class Meetings
  - 1b. Other Seminars, Conferences and Events
2. Case Study Paper (due end of first week of Winter Quarter)
3. Research Paper (due end of week 8 of Spring Quarter)

### Course Component #1: Class / Seminar Attendance

During your senior year (final three quarters on campus) you must attend at least 27 hours of class meetings and approved lectures, seminars or other related activities. Students should keep a "diary" or listing of the class session and events they go to. Other than class sessions, students should make brief notes (about a paragraph in length) on the speaker and subject matter of the event. This is submitted along with the second paper at the end of Spring Quarter.

#### *Class Meetings*

The primary component of the 27 hours are class meetings. There are about seven or eight meetings each quarter for an hour each time. Some of these sessions are a discussion of a contemporary issue. Students read materials beforehand and prepare to lead the discussion. Other sessions comprise presentations of students' work on their two required papers. Each quarter a mutually convenient time is arranged, based on students' time availability.

#### *Other Seminars, Conferences and Events*

The balance of the 27 hours can be drawn from any of the following:

- seminars in the Transportation Center seminar series (most of which are accessible to undergraduates, if in doubt ask the instructor). These typically are held every other Thursday from 4pm to 5pm in the lower level classroom at the Transportation Center (600 Foster Street),
- similar seminars organized by other NU departments on a transportation or logistics theme,
- the Transportation Center "Sandhouse Gang" lecture series that focuses on railroad issues, or the "Icarus Society" lecture series that deals with aviation,
- other Transportation Center special lectures such as the Patterson Lecture, Moses Lecture, and mini workshops organized prior to the biannual Business Advisory Council meeting,
- orientation session of the Transportation Library,
- speakers invited by the Transportation Club,
- field visits organized by the Transportation Club, and
- other professional lectures or conferences outside of NU. If you have any doubt as to whether an event is appropriate talk to the instructor.

The Transportation Center mailing listserv keeps you informed about seminar and event announcements. You can also check the Transportation Center's web page:

<https://transportation.northwestern.edu/>

#### *Note*

The Fall and Spring quarters tend to be quite active, with a lesser number of events in the Winter. So don't fall behind in the Fall Quarter on the additional seminars and events.

### **Course Component #2: Case Study Paper (due end of first week of Winter Quarter)**

A descriptive case study of a particular transportation or logistics firm or industry, or of a public policy debate. The objective is for students to read and investigate the existing literature on a subject, and to organize and report on what they have learned in the form of a six-page paper. For this paper, there is no need for any original data analysis, but students use analytical skills in interpreting and organizing the existing literature. Students are expected to look at multiple sources. The subject matter can be anything in the field of transportation and logistics.

The deadline for submission is the end of the first week of Winter Quarter. Students should start thinking about a topic immediately at the start of Fall Quarter. A proposal is due by the end of week 4 of the Fall Quarter. It is a good idea to discuss it informally with the instructor before you submit. The instructor is a good resource for suggesting which of the Transportation Center faculty might be the most appropriate to act as an advisor on the paper.

You can see a listing of topics chosen by previous students at:

<https://faculty.wcas.northwestern.edu/ipsavage/minor/TLMinor-papers.pdf>

### **Course Component #3: Research Paper (due end of week 8 of Spring Quarter)**

An extended analytical paper that evaluates a specific public policy initiative or a business issue. TRANS 310 is not an honors course, so the extent of the paper is less than that associated with an honors thesis. While purely theoretical work is welcomed, it is likely that most papers are empirical. The paper usually involves some data collection and statistical or econometric analysis (fortunately, transportation and logistics does have many easily accessible databases for the student to use). Simulation of networks is also a possibility. The paper can be an analytical extension of the literature-review paper submitted earlier in the year, but this need not be the case. The paper is typically about ten pages, exclusive of any tables and/or data appendices.

This is a multi-disciplinary minor, so the methodology used and the style of this paper varies according to the norms of your major.

Students should start thinking about a topic early in Winter Quarter. A proposal is due January 31. As with the first paper, it is a good idea to discuss your proposed topic informally with the instructor prior to the deadline. The instructor can then make suggestions as to which of the Transportation Center faculty might be most appropriate to act as an advisor on the paper.

Students work on their papers during Winter and Spring Quarters. The deadline for submission is the end of eighth week of Spring Quarter. In addition to the written paper, students make a presentation of their work to the faculty and other students. Typically, this occurs during WCAS Reading Period at the end of Spring Quarter.

You can see a listing of topics chosen by previous students at:

<https://faculty.wcas.northwestern.edu/ipsavage/minor/TLMInor-papers.pdf>

### **Timeline for Those Graduating in June**

#### *Fall Quarter*

Attend approximately 9 hours of class, seminars and events

End of week 4 – Paper 1 proposal

#### *Winter Quarter*

Attend approximately 9 hours of class, seminars and events

End of week 1 – Paper 1 submitted

January 31 – Paper 2 proposal

#### *Spring Quarter*

Attend approximately 9 hours of class, seminars and events

End of week 8 – Paper 2 submitted, diary of class/seminars/events submitted

Reading Period – Presentation of Paper 2

### **Restricted Use of Generative Artificial Intelligence**

While this course recognizes the potential benefits of Generative AI (GenAI) as a supplementary tool for certain learning activities, its use is restricted to specific assignments where GenAI's role is clearly defined and aligns with the course learning objectives.

The use of GenAI is totally **prohibited** in:

- reviewing assigned readings when preparing for class discussions,
- reviewing materials for and writing the case study paper,
- reviewing previous literature for, conducting analysis of data (other than assistance in writing computer code) or writing of the research paper.

This course permits the use of Generative AI (GenAI) as a resource for completing assignments (such as unassigned preparatory reading for class discussion sessions) other than the three complete prohibitions described above. However, transparency is

crucial, and students are required to explicitly disclose and describe each individual use of GenAI assistance on a separate “methods page” in any written notes or presentation. This citation requirement allows for the acknowledgment of collaboration with GenAI in the learning process while still assessing student learning based on the achievement of the course learning objectives.

Unauthorized or uncited use of GenAI outside these parameters will be considered a breach of academic integrity and will be reported to the Dean for Academic Integrity in your School.

### **Concluding Remarks**

We think that you will find this an intellectually interesting and, almost as importantly, fun experience, and one that rounds out your transportation and logistics education at Northwestern.

A huge advantage of this minor is that you are encouraged to interact with the interdisciplinary faculty of the Transportation Center. We are all very proud of you as minors, so don't be shy in taking advantage of our knowledge. While Professor Savage is your principal contact for the administration of TRANS 310 and your senior year, the Transportation Center has a large group of affiliated faculty, some of whom may be more appropriate advisors on the specific topics you choose for your papers.

As with the faculty, the seniors in the minor are drawn from many disciplines and have varied experiences. Much of the value of an interdisciplinary program is learning from your fellow students.

## **Appendix: Notes on Formatting the Two Papers**

### *Paper Structure*

1. Title Page with
  - a. Paper title
  - b. Your name
  - c. Class (TRANS 310)
  - d. Date
2. Abstract – a one-paragraph non-technical description of what your paper is about and what the main findings are.
3. Main body of the Report
  - a. Introduction – set out what the problem statement is
  - b. Literature review
  - c. Data sources (for paper 2)
  - d. Analysis
  - e. Discussion of findings
  - f. Conclusions
4. Acknowledgements (if any) – people who helped you
5. References

### *Considerations for the Main Body of the Report*

- Use section headings (and section numbers) to break up the text
- Avoid writing in the first person
- Use footnotes sparingly
- Use 1.5 line spacing
- Use size 12 type
- 1" margins on all sides
- Page numbers
- Proof read and grammar check

### *Referencing*

There are several alternative referencing styles. Let us standardize on the Harvard system. Read this presentation from Imperial College London on this referencing system: <https://faculty.wcas.northwestern.edu/ipsavage/TRANS310/Harvard-referencing.pdf>