

Chapter XIV: CAPSTONE EXPERIENCES

Who takes it?

All seniors take a capstone course in their major.

When is it administered?

During the senior year.

What office administers it?

The faculty of the discipline.

Who originates the capstone course and review?

The faculty of the discipline.

When are results typically available?

The fall following the year in which the capstone courses are given.

From whom are the results available?

The faculty of the discipline or the department office.

What type of information is sought?

Each discipline establishes specific outcomes for that discipline.

Are the results available by department or discipline?

Yes—by discipline only.

Are the results comparable to data of other universities?

No.

Over the last two decades, capstone courses have seen improvement. Faculty have developed many approaches to capstones and have discovered numerous benefits beyond the initial expectations. Capstone courses help students to integrate the subfields, skills, and perspectives of the major. They prompt faculty discussion, which contributes to increased coherence of a major's course of study. The courses create opportunities for multiple assessments to be made of the major and liberal arts and sciences objectives by the faculty themselves. It is the faculty's direct analysis of the students' cumulative learning that makes this method of assessment so beneficial.

GOALS FOR STUDENT LEARNING

Truman seeks that its students graduate with in-depth knowledge in the major comparable to knowledge received from the best universities in the country and the world. Thus, the university emphasizes that a student's learning should be cumulative and should cover the breadth of the discipline. The graduating student is also expected to demonstrate the ability to integrate knowledge and to make interdisciplinary connections.

Skills that have been identified as critical objectives for the university include the ability to write various types of papers, to speak comfortably both in formal and impromptu presentations, to work collaboratively with fellow students, and to think critically. Assessment of the third goal, attitudes, has included varied levels of attention, but many of the majors have developed several of the following four foci:

1. Does the student demonstrate openness to more than one position and make fact/value distinctions?
2. Does the student possess positive self-esteem and practice self-evaluation?
3. What are the students' attitudes toward the university and the major?
4. Does the student demonstrate ethical and social responsibility?

SELECTED ASSIGNMENTS FROM CAPSTONE COURSES: KNOWLEDGE, SKILLS AND ATTITUDES

Strategies for senior experiences to demonstrate and build on student knowledge of the discipline range from presenting an article review to writing a formal thesis or paper, or from designing a research project to sitting for a locally-developed comprehensive exam. Independent of the capstone course, the university requires each graduating student to sit for a nationally standardized exam. Furthermore, interdisciplinary connections are encouraged through such mechanisms as selected case studies, required interdisciplinary portfolio entries, and exit interview questions that ask the students to identify connections between their major and the LSP. The university's portfolio assessment of the liberal arts and sciences is implemented through capstone courses. Faculty in the major are asked to collect the portfolio and are encouraged to add specific portfolio requests pertaining to objectives in the major.

To assess student skills such as communicating and collaborating, faculty might ask students to formally present their research to the class, to argue and defend an issue position, to sit for an oral examination, or to work in groups to solve a problem and/or conduct a research project. Many of the capstone courses also attempt to consciously assess various levels of critical thinking through the ability to apply concepts and theories of the discipline to new situations, and to analyze, synthesize, and evaluate. Other disciplines focus more generally on problem-solving ability. Case studies, literature reviews, argumentation papers, audience analysis, canon discussions, and student self-evaluation each prove to be popular assignments that combine knowledge objectives with skills assessment.

Objectives regarding attitudes are more difficult to specify and assess than knowledge and skills, but faculty in many majors have developed a consensus on several objectives and have developed approaches to assess them. Case studies can present students with ethical dilemmas to resolve, and role-playing can be an effective means for demonstrating multiple perspectives to an issue. Students may be asked to argue for a position other than the one they hold. Many of the capstone courses provide multiple opportunities for students to self-assess. Students might be asked to identify their strengths and weaknesses during an exit interview or to evaluate the curriculum. Every student is asked to evaluate the university and the major in the university-wide Graduating Student Survey. Faculty in the major then receive the data on their majors as well as university averages during the summer Master Plan and Assessment Workshop.

CAPSTONE BENEFITS

Benefits of the capstone courses are varied, but an examination of the benefits of a specific capstone can best demonstrate some of the potential contributions capstone courses can make. Team teaching the capstone course brings opportunities several times a week for colleagues to reflect on and discuss student learning in the major. Inevitably, such discussions include references to the curriculum, specific assignments, and teaching pedagogy. Faculty have the opportunity to learn teaching strategies and discipline subfields from each other. This is a particularly good opportunity to mentor new faculty about the importance of discipline objectives, high expectations for students, and frequent faculty-student interaction. Through collegial discussions, program objectives are shared, cohesiveness increases, and improvements are planned.

VARIOUS MODELS OF CAPSTONE EXPERIENCES

Since the university granted faculty in each discipline the autonomy to interpret the capstone requirement for their major programs, a wide variety of models has evolved. Several models are presented in the following pages showing the knowledge, skills, attitudes paradigm. These various models provide a more complete description of capstone courses at Truman State University. Selected disciplines are included below. Discipline reports rotate in this *Almanac* on a yearly basis.

DISCIPLINE: **Agricultural Science**

COURSE TITLE: **AGSC 490/491 – Agriculture Practicum 1 and 2**

CREDIT HOURS: **2**

This Fall/Spring series of classes is the capstone experience. The overriding goal and purpose for this course is to provide a senior-level experiential class in which our students will be forced to utilize much of the theoretical information they have learned since beginning our curriculum as freshmen. The plan is that, each year, students in AGSC 490-491 will propose a project for their class that will focus on some production idea or problem. Not only will this allow the practical application of our students' classroom training, but it will also allow us as a faculty to instill in our students the liberal attitudes and values desired as outcomes of the Truman experience: problem-solving, management, frugality, self-reliance, teamwork, responsibility and an understanding of the democratic society in which we live, along with opportunities for enhancing development of communication skills, an understanding of the scientific method and the application of science to solve problems, and life-long learning skills.

DISCIPLINE: **Economics**

COURSE TITLE: **ECON 479 – Senior Seminar in Economics**

CREDIT HOURS: **3**

This course serves as the capstone experience for the economics major. This course did not exist at the time of our last five-year review. It was originally designed to be team-taught by two faculty members, one with a concentration in microeconomics and one with a concentration in macroeconomics. With the discipline's move to a 3/3 teaching load, this course has evolved into one taught by a single faculty member.

One of the purposes of the Senior Seminar in Economics is to provide for some review of basic microeconomics and macroeconomics in preparation for the MFAT exam, the senior test in economics. Those reviews have differed greatly over time, depending on who instructed the relevant course component. Supplemental readings and take-home exams are generally used in this review.

The major determinant of a student's grade in the Economics Senior Seminar derives from their performance on a multi-part empirical research paper, essentially a senior thesis. The structure of the writing assignments in this course allows its designation as meeting part of the writing-enhanced requirement in the Liberal Studies Program. Students submit a paper topic, an annotated bibliography, a literature review, a model specification and presentation of the hypotheses they will be testing, a rough draft, and a final polished paper. Most of the preliminary stages of the paper also provide ample opportunity for revision and resubmission. In

completing their project, students also give multiple oral presentations. First they give a brief presentation on their topic; then they present their model specification and hypotheses before the class for critique and comment; and finally, at the end of the semester, students will participate in a mock economics conference in which they formally present their papers. Other class members are assigned as paper discussants.

The Senior Seminar in Economics addresses more than one of the Master Plan goals for majors. Early in the semester we devote one day to a trip to the University Career Center, where they take part in a presentation on interviewing, job search, and resume writing. All students in the course are required to write a resume and either a cover letter for a job or a statement of purpose for a graduate school application. Seminar students also receive an extensive bibliography of sources on graduate education and careers in economics, and each student is required to write a summary and make a brief presentation on one or more of the sources on that bibliography. Opportunities for graduate study in economics and related disciplines are discussed, and sometimes we bring in guest speakers to talk about graduate school opportunities.

The Senior Seminar in Economics also addresses assessment issues for both the university and the discipline. Each student receives a portfolio packet and an entire day is devoted to discussing the prompts and types of submissions that might be appropriate for each category. Students are required to submit their completed portfolios by early April. Portfolio submissions are, however, not prescreened so as to avoid any censoring impact on what students chose to submit. Originally, the final exam period for this course had been designed for discipline exit interviews. The last two years of increased enrollments, however, have required the allocation of that time to student presentations. Ideally the exit interviews will be resumed in the future because they did provide valuable insight into what the students thought of their economics experience here at Truman and what changes they would like to see.

DISCIPLINE: Mathematics

COURSE TITLE: MATH 497 – Capstone Seminar

CREDIT HOURS: 1

Mathematics majors are required to complete a "capstone integrating experience". If the student is earning a second major in another discipline that requires a capstone, the student may use that capstone to satisfy the mathematics capstone requirement. All other mathematics majors must complete a capstone in mathematics.

The mathematics capstone consists of a proposal, a final paper, and a twenty–five to fifty minute public presentation. The capstone project is designed to demonstrate the student's ability to independently study an area of mathematics and synthesize material obtained from multiple sources. The student is also required to communicate what he or she has learned in a written paper and an oral presentation

Each student is responsible for selecting a capstone topic and a supervisor. With the supervisor's approval, the student then writes a project proposal and submits it to the Undergraduate Committee. A coordinator is assigned who forwards the proposal to two anonymous reviewers. If both reviewers approve the proposal, the same reviewers will also review the final paper. If one or both reviewers feel the proposal is inadequate, the student can revise and resubmit the proposal until both reviewers approve it. The same reviewers that approve the proposal will review the capstone under a similar process. The capstone experience is considered complete when both reviewers have approved the final paper and the public presentation is made.

The discipline offers a one-credit elective capstone course which helps students prepare for the capstone. In addition to helping students find topics and supervisors, this course offers information on writing about mathematics, on using LaTeX, and on preparing and delivering an oral presentation on a mathematical topic.

DISCIPLINE: **Nursing**

COURSE TITLE: **NU 410 – Introduction to Nursing Research**

CREDIT HOURS: **3**

Students are grouped in 3's to develop three term papers based upon the categories of 1) evidence-based practice for a nursing intervention, 2) a conceptual proposal of a research problem, and 3) a methodological proposal for investigation of a research problem. Each student is responsible for authoring one of these term papers and peer reviewing the other two term papers. At the end of the year, each student presents, either orally or by poster, the Capstone project based on the term paper authored by that student. During the spring semester the presentation is incorporated into the Capstone of Nursing conference sponsored by the Truman State University Nursing Honor Society. The last week of class is dedicated to discussions about professional presentations formats and expectations. The work is evaluated by other Nursing Faculty. Categories for evaluation include 1) critical thinking, 2) communication, and 3) therapeutic nursing intervention.

DISCIPLINE: **Russian**

COURSE TITLE: **RUSS 400 – Russian Capstone Experience**

CREDIT HOURS: **2**

The capstone is usually required during the final semester of the senior year, but the Russian faculty occasionally allow flexibility in the timing of the capstone. Students who participate in the Truman-sponsored study abroad program at the Academy of Humanities and Social Sciences in Moscow, Russia, are permitted by the major faculty to substitute hours earned on the study abroad program for the capstone course. The major faculty does so in the belief that participation in study abroad on this program is clearly an activity that "cause[s] the student to

bring to bear on a significant topic and project the preparation gathered in previous work toward the major."

Students who opt to fulfill the capstone other than by studying at the Academy may do so in a variety of ways. To date, several students have chosen to do semester-long translation projects under the supervision of the capstone instructor.

DISCIPLINE: **Theatre**

COURSE TITLE: **THEA 495 – Senior Theatre Seminar**

CREDIT HOURS: **2**

Senior Theatre Seminar is the capstone course for the Theatre discipline. It is a two-hour course, currently involving 2-3 contact hours per week and designed to help students address questions and concerns regarding careers in theatre and/or further study in graduate school. It also assists students in assessing their growth within the department, demonstrate knowledge, skills, and attitudes developed during their studies, and articulate their overall experience with the major. Accordingly, students are given a wide variety of experiences throughout the seminar, which include the following:

- The writing of a personal manifesto of theatre, designed to help students clarify their professional philosophy and goals with regard to a career in theatre. This manifesto is compared to the one written upon entrance to the program in the New Majors Seminar.
- Peer reviewing, editing, and discussion of the manifestos of fellow class members.
- Developing a series of resumes for vocational and academic contexts.
- Conducting and interpreting a vocational interview with professionals currently working in their field of interest.
- Engaging in a simulated job interview.
- Taking a departmentally designed assessment exam, discussing, and comparing it with the same one taken in the New Majors Seminar.
- Taking a departmentally designed senior exit survey to provide feedback to the faculty and allow for self-assessment and reflection.
- Completing a final project related to the student's individual area of specialization, often constructed in the form of a portfolio.
- Writing abstract/analyses on journal articles concerning current topics and trends in the field of theatre and discussing findings and responses in small groups.
- Applying for graduation, preparing for the GRE and GSQ, organizing the university portfolio for submission, and investigating professional organizations, unions, and conferences.

The theatre faculty believes the concept and design of this capstone experience offers both faculty and students multiple assessment opportunities and ensures a smoother transition for students from the university to the professional world upon graduation.