

SPECIAL REPORT

OF THE

**ACADEMIC MATTERS,
ACADEMIC PRIORITIES, AND
PROGRAM AND BUDGET COUNCILS**

concerning the

**CREATION OF A
STEM-GERMAN CONCENTRATION IN THE
GERMAN AND SCANDINAVIAN STUDIES MAJOR
(#4590)**

Presented at the
785th Regular Meeting of the Faculty Senate
March 7, 2019

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ACADEMIC MATTERS COUNCIL RECOMMENDATION

The Academic Matters Council recommends approval of this proposal.

ACADEMIC PRIORITIES COUNCIL RECOMMENDATION

The Academic Priorities Council recommends approval of this proposal.

PROGRAM AND BUDGET COUNCIL RECOMMENDATION

The Program and Budget Council recommends approval of this proposal.

Briefly describe the Proposal

The program in German & Scandinavian Studies (GSS) proposes to add a concentration in STEM-German. This concentration is designed to develop scientific and technical German language abilities, to promote experiential learning by facilitating internship opportunities and laboratory placements in Germany, and to cultivate cultural and historical knowledge of German-speaking regions as well as intercultural competencies. The concentration is meant to be paired with a major or at least a minor in a STEM field, and is designed to enable the flexibility and curriculum mapping required to coordinate the concentration in STEM-German with a second major or dual degree in a STEM field.

Provide a brief overview of the process for developing the proposal.

The proposal for the STEM-German concentration was developed by faculty in GSS over the course of the academic year 2016-2017. Development occurred in three main stages.

1. Research and assessment.

Sara Jackson, assistant professor of German Studies, researched existing model programs at peer institutions such as the University of Rhode Island and the University of Connecticut. This included site visits and meetings with directors of those programs to learn more about the structure and requirements of similar major concentrations. Based on this research, Sara Jackson proposed to the full faculty in GSS that the program create a STEM-German track. By approval of the GSS faculty, development was advanced to the GSS Undergraduate Curriculum Committee.

2. Undergraduate Curriculum Committee discussion and development.

The GSS Undergraduate Curriculum Committee met regularly during the fall and winter semesters to review the existing major concentrations in German & Scandinavian studies and to develop a curriculum proposal for the STEM-German concentration. This included consideration of learning objectives and outcomes, language acquisition and proficiency, internship and laboratory placement design and integration, and resource needs.

3. GSS program review and approval.

After the Undergraduate Curriculum Committee had developed a curriculum proposal for the STEM-German concentration, this was presented to the full GSS faculty for review, discussion, and approval. The review stage took place over the course of several faculty meetings during the spring semester 2017 and early fall semester 2017. After necessary revisions, the final proposal was approved by unanimous vote of the GSS faculty.

PURPOSE AND GOALS

Describe the proposal's purpose and the particular knowledge and skills to be acquired.

The STEM-German concentration will offer students in STEM field majors increased opportunities to expand their education in languages, world cultures and the humanities in coordinated study with their STEM field. The STEM-German concentration also increases experiential and international opportunities through integrated internships and exchanges. Work and study experiences in Germany will count for credit towards completion of the STEM-German concentration.

The STEM-German concentration is meant only to be completed in combination with a major or at least the equivalent of a minor in a STEM field, so that students leave the program with the necessary knowledge and expertise to pursue relevant career and future study opportunities.

Another goal of the STEM-German concentration is to create a community of German speakers who are uniquely prepared for post-undergraduate work and studies in the German-speaking world of the 21st century. The economy of today's Germany is marked by new opportunities in STEM fields that did not exist even a decade ago, and so this concentration will meet a new and growing need. Data from comparable programs at peer institutions show that students who graduate with an integrated degree in German and a STEM-field have increased employment opportunities.

Students in the STEM-German concentration will acquire a uniquely focused and nuanced set of cultural competencies (both professional and practical) for living, working, and/or studying in Germany and in other world regions. They will also acquire linguistic knowledge about German that emphasizes both theoretical and real-world competency. Starting with the first year of German study in the concentration, and then while progressing through all the steps to the end of the degree, students will learn, for example, the German vocabulary specific to various STEM fields, the history of Germany's involvement with STEM industries as a driver of the country's economic engine, the pragmatics of working and surviving within a German company or university as a learner of the language, and pathways for extended stays in Germany for post-undergraduate life.

Additionally the STEM-German concentration will benefit students in our regular German concentration and students in German language courses on campus (and among the five colleges) by developing a wider, more diverse cohort of language learners. Students in STEM fields have not traditionally been recruited into language learning as strongly as students in the humanities.

RESOURCES

If this proposal requires no additional resources, say so and briefly explain why. If this proposal requires additional resources, explain how they will be paid for. For proposals involving instruction, indicate how many new enrollments are expected and whether the courses have room to accommodate them.

The STEM-German concentration requires a specialist instructor to teach scientific and technical German language courses, to source and coordinate internship opportunities and laboratory placements in Germany, and to coordinate STEM-German specific study exchanges

with the International Programs Office. This lecturer position has been created and filled; it is supported for an initial three-year development period, with possible extension to a fourth year, by significant funding from a Five College Innovative Language Pedagogy Grant and matching funds from UMass and Five College partners for a new UMass/Five College program, iSTEP: international Science Technology and Engineering Programs. With demonstrated program success and established benchmark goals, iSTEP will be continued beyond the grant-funded development period.

The STEM-German curriculum will be integrated with the existing GSS curriculum. STEM-German students will enroll in the existing first- and second-year German language courses, and also in one-credit add on courses for scientific and technical German language development connected to each of the first four semesters of language study. GSS anticipates that student enrollments in the STEM-German concentration will not exceed the capacity of the existing first- and second-year language course sections. The one-credit add on courses will be taught by the iSTEP lecturer.

Additionally, in order to accommodate varying student scheduling needs, GSS has reintroduced the first-year elementary and second-year intermediate intensive German language courses. GSS will create and offer new/additional third-year advanced German language courses specifically designed for scientific and technical German language for students in the STEM-German concentration. These courses will be taught by the iSTEP lecturer, and will be offered in addition to the existing third-year advanced German language courses, which will accommodate the additional enrollments of the STEM-German concentration along with the German concentration.

For concentration requirements beyond German language courses, STEM-German students will enroll in courses offered in our existing German & Scandinavian Studies curriculum taught by GSS and adjunct faculty. GSS anticipates that student enrollments will not exceed the capacity of the existing courses taught by GSS and adjunct faculty.

CURRICULUM

Provide a curriculum outline showing degree program requirements, requirements of any existing concentrations, requirements of proposed concentration, and how they relate. You may include this outline and any additional documents as attachments below.

Please see attached document. [Attached document begins on the following page]

MOTION: That the Faculty Senate approve the Creation of a STEM-German Concentration in the German and Scandinavian Studies Major, as presented in Sen. Doc. No. 19-19
19-046.

**Curriculum Outline:
Major in German & Scandinavian Studies, Concentration in STEM-German**

Article I. STEM-GERMAN CONCENTRATION GENERAL REQUIREMENTS

The STEM-German major concentration is meant to be combined with a major or at minimum the equivalent of a minor in a STEM field. The STEM-German concentration is part of the new, iSTEP: international Science Technology and Engineering Programs. Students in the concentration in STEM-German will be required to complete at least 30 credit hours in German language, German culture, and/or internship or independent study in Germany or a German-speaking country.¹ Students will complete at least 18 credit hours in German language course work (Part A below) and also at least 12 credit hours in approved culture course work (Part B below).

Exceptions, equivalencies, approvals, and substitutions for concentration requirements may be made by the German & Scandinavian Studies Undergraduate Program Director or the Director of iSTEP: international Science Technology and Engineering Programs. Students in the STEM-German concentration are required to work closely with the Director of iSTEP for course planning, coordinating international experiential learning opportunities, and course approvals and equivalencies. Students in the STEM-German concentration will be required to meet regularly with the Director of iSTEP. Students may only complete the STEM-German concentration if they also complete a major or the equivalent of a minor in a STEM field. As part of our integrated, mandatory advising structure for the STEM-German concentration, students are required to meet with the iSTEP advisor every semester before registering for classes. Majors in all of our concentrations (German, Scandinavian, STEM-German) have a block placed on their registration until they meet with a GSS undergraduate advisor to discuss course selection. Students who begin in the STEM-German concentration and do not declare or complete a major or at least the equivalent of a minor in a STEM field will be transferred from the STEM-German concentration to the regular German concentration.

Article II. STEM-GERMAN CONCENTRATION PREREQUISITES

In order to enter the concentration in STEM-German, students must complete coursework or demonstrate knowledge equivalent to our Elementary level German language courses. Students should also complete the one-credit add on courses in STEM German:

German 110: Elementary German I	+German 121: STEM German I	3 Credits +1 Credit	= 4 Credits
German 120: Elementary German II	+German 121: STEM German II	3 Credits +1 Credit	= 4 Credits
OR German 126: Intensive Elementary German	+German 121: STEM German I	6 Credits +1 Credit	= 7 Credits
<i>OR Equivalent Knowledge</i>			

¹ A requirement of 30 credit hours makes the STEM-German concentration equivalent to the course requirements for the newly approved revisions to the regular German and Scandinavian concentrations. This also brings the German & Scandinavian concentrations into line with comparable majors at UMass and with other German majors at peer institutions in the US.

Article III. STEM-GERMAN CONCENTRATION COURSE REQUIREMENTS Part A. at least 18 Credits in the German Language at the German 230 Level and Above

Students in the STEM-German concentration must complete at least 18 credit hours in the German language (Part A). This may include German language courses offered by GSS at UMass, in the Five Colleges, or at international universities in approved exchanges.

Requirements for Part A in both the STEM-German concentration and the German concentration are designed to ensure a minimum proficiency in the German language for students graduating with these concentrations. The German concentration does not include the second year Intermediate German language courses (German 230 and German 240) in order to ensure that students in that concentration achieve the minimum expected language level as demonstrated by successful completion of a course taught in the German language at the 400-level and above. The German concentration then includes additional requirements in Part B to reach an equivalent number of courses or credit hours.

Students in the STEM-German concentration are required to complete more credits in Part A than students in the German concentration. Students in the STEM-German concentration will also complete additional coursework in the German language through the STEM-German add-on courses in addition to first-year Elementary and second-year Intermediate German language courses. Through completing the international components central to the STEM-German concentration, students will develop the language proficiency outlined for both the German concentration and the STEM-German concentration. Students who do not complete an Independent Study or Internship in Germany will need to complete additional German language coursework with GSS in order to fulfill the requirements of Part A and thereby to achieve the same minimum requirement for German language proficiency as the German concentration. As such, second-year Intermediate German language credit hours are counted toward Part A in the STEM-German concentration.

In order to earn the credit hours required for Part A students would complete the following course work or its equivalent:

German 230: Intermediate German I +German 231: STEM German III	3 Credits +1 Credit = 4 Credits
German 240: Intermediate German II +German 241: STEM German IV	3 Credits +1 Credit = 4 Credits
OR German 246: Intensive Intermediate German +German 231: STEM German III	6 Credits +1 Credit = 7 Credits

AND

German 312: Advanced Scientific & Technical German I	3 Credits
German 322: Advanced Scientific & Technical German II	3 Credits

In addition to German language courses offered in the GSS curriculum, students in the STEM-German concentration are encouraged to participate in coordinated internships or laboratory placements in professional companies and research institutions in German-speaking countries.

Students who participate in internship or laboratory placements may earn up to 8 credit hours by completing additional coordinated written assignments to accompany their experiential learning.

These credit hours may be applied to the requirements in Part A or Part B. Independent Study / Internship in Germany credit hours may be divided between Part A and Part B, however individual credits may not be applied to both categories simultaneously.

In most cases students will earn up to 6 credit hours in Independent Study or Internship in Germany. Students may earn up to 8 credit hours in exceptional cases with additional work as approved by the Undergraduate Program Director or the Director of iSTEP.

Independent Study or Internship in Germany	1-8 Credits
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Additional credit hours may be completed in alternative German language courses offered by GSS. This course work may be necessary for students who do not study abroad at a German university and/or participate in Independent Study or Internship in Germany. Additional course work in GSS for Part A may include:

German 310: Advanced German I	3 Credits
German 320: Advanced German II	3 Credits
German 311: Reading German Culture	3 Credits
German 400+: Topics in German Language & Culture	4 Credits

Article IV. Part B. at least 12 Credits in additional GSS-Approved Courses

In addition to at least 18 credit hours in the German language, as outlined in Part A above, students in the STEM-German concentration must also complete at least 12 credit hours in GSS-approved courses from Part B. This includes culture, literature and history coursework. The Part B requirement is designed to develop students' historical and cultural knowledge of German-speaking regions as well as intercultural competencies. Credit hours earned through Independent Study or Internship in Germany may be applied to Part B if those credits are not applied to requirements in Part A. Students may apply courses taught in the German language at the 400-level and above to Part B if those credits are not applied to requirements in Part A. Junior Year Writing may count toward the requirements in Part B if taken in German & Scandinavian Studies. Capstone (IE) may count toward the requirements in Part B if taken in German & Scandinavian Studies.