



Course Specification

— (Bachelor)

Course Title: **Scientific Translation**

Course Code: **TRN3334-3**

Program: **Bachelor of Arts in Translation**

Department: **Department of Translation**

College: **College of Languages and Translation**

Institution: **King Khalid University**

Version: **1**

Last Revision Date: **20 Jan 2025**

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A. General information about the course:

1. Course Identification

1. Credit hours: (3)

This course is designated 3 credit hours, as indicated in the parentheses above. In Section 3, 'CONTACT HOURS', a detailed breakdown of the course's contact hours is provided, specifying lectures, tutorials, laboratory sessions, and other forms of student-teacher interaction. Meanwhile, Section C, 'COURSE CONTENT', elucidates the primary topics, themes, and sub-areas that the course will cover, ensuring students are aware of the academic terrain they will navigate throughout the term. It is essential to refer to these sections for a comprehensive understanding of the course's structure and content.

2. Course type

- A. ☐ University ☐ College ☒ Department ☐ Track ☐ Others
- B. ☒ Required ☐ Elective

3. Level/year at which this course is offered: (Semester 6 - Year 3)

4. Course General Description:

This course provides learners with an overview on translating scientific texts in general from English into Arabic and vice versa. The course is also intended to demonstrate the most common specialized terminologies circulated in the field through which learners can practice translation and then develop knowledge and skills about how to treat such jargon to produce the best translation possible in this regard. It also introduces some of the most important specialized scientific terminology and various challenges in scientific translation.

5. Pre-requirements for this course (if any):

TRN2331-3

6. Co-requisites for this course (if any):

N/A

7. Course Main Objective(s):

Unlike general translation courses, this course aims at training students on translation in specialized contexts particularly scientific, from English into Arabic and vice versa. Furthermore, to familiarize students with some of the specialized terminology they may encounter in this field and to equip them with the best utilizable methods, strategies and techniques to be followed while translating along with the problems and challenges in scientific translation.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	40.5	90%
2	E-learning	4.5	10%
3	Hybrid <ul style="list-style-type: none"> Traditional classroom E-learning 	-	-
4	Distance learning	-	-

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	45
2.	Laboratory/Studio	-
3.	Field	-
4.	Tutorial	-
5.	Others (specify)	-
Total		45





B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Acquire introductory information about scientific translation	K1 & K4	<p>Lecture: Introduce students to the field of scientific translation, its significance, and the key skills required for accuracy and professionalism. Define scientific translation: The process of translating scientific texts, such as research papers, technical manuals, patents, and medical reports, from one language to another.</p> <ul style="list-style-type: none"> • Discuss the importance of scientific translation: • Facilitates global knowledge sharing. • Supports international collaboration in research and innovation. • Ensures accessibility of information across language barriers. • Examples of scientific texts: Research articles, pharmaceutical documentation, user manuals for scientific equipment, and conference presentations. • Characteristics of Scientific Translation • Challenges in Scientific Translation <p>Class Discussion: Engage students in analyzing the scope and challenges of scientific translation through collaborative reflection. Each group shares their insights with the class, promoting collective learning.</p> <p>Group Activity: Provide students with hands-on experience analyzing and translating a simple scientific text. Each group presents their translated text and explains their decision-making process. Provide constructive feedback, focusing on:</p> <ul style="list-style-type: none"> • Accuracy of terminology. • Adherence to scientific conventions. 	Formative Assessment 1 (5 marks)





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			<ul style="list-style-type: none"> • Collaboration and problem-solving. 	
1.2	Recognize and understand scientific jargon in their specialized contexts	K1 & K4	<p>Lecture: Provide students with an understanding of scientific jargon, its characteristics, and strategies to handle it in specialized contexts.</p> <ul style="list-style-type: none"> • Define scientific jargon: • Discuss the purpose of scientific jargon: • Examples of scientific jargon. • Characteristics of Scientific Jargon (e.g., Domain-specific, Dense and concise, Universal but contextual, Often includes abbreviations). • Strategies for Translating Scientific Jargon (e.g., Research and Glossaries, Understanding Context, Consulting Experts, Adaptation for Target Audience). <p>Class Discussion: Facilitate a discussion to analyze examples of scientific jargon and understand its role in specialized contexts. Groups present their findings, focusing on:</p> <ul style="list-style-type: none"> • The types of jargon identified. • Challenges they anticipate when translating the terms. <p>Group Activity: Allow students to practice identifying and translating scientific jargon in a specialized context collaboratively.</p>	Midterm Exam (30 marks)
1.3	Develop some scientific background knowledge with regard to	K2	<p>Lecture: Introduce students to the importance of scientific background knowledge in understanding and translating scientific texts accurately.</p> <ul style="list-style-type: none"> • Explain why scientific background knowledge is essential for translators: 	Assignment 1 (5 marks)





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
	translation which contributes to a better understanding and rendering of texts in these genres		<ul style="list-style-type: none"> Improves comprehension of specialized texts. Enhances accuracy in translating technical terminology and concepts. Builds confidence in handling complex scientific genres like research papers, manuals, or reports. <ul style="list-style-type: none"> Discuss examples of how a lack of background knowledge could lead to misinterpretation or mistranslation. <p>Class Discussion: Engage students in analyzing the relationship between scientific knowledge and effective translation. Divide students into small groups and provide a short scientific excerpt (e.g., an abstract from a research paper or a medical document).</p> <p>Pair Activity: Allow students to practice applying their background knowledge to analyze and translate a short scientific text collaboratively. Each pair exchanges their translated text with another pair for review and feedback. Feedback focuses on:</p> <ul style="list-style-type: none"> Accuracy of terminology. Clarity of scientific concepts. Consistency in tone and style. 	
2.0	Skills			
2.1	Translate clearly and meaningfully in the fields of science	S7	<p>Lecture: Provide an overview of lexical and syntactic features in scientific texts and strategies to address them in translation.</p> <ul style="list-style-type: none"> Introduction to Lexical Features in Scientific Translation 	Formative Assessment 2 (5 marks) Quiz (10 marks)





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
	through analyzing lexical and syntactic features		<ul style="list-style-type: none"> • Introduction to Syntactic Features in Scientific Translation • Analyzing and Addressing Both Features <p>Class Discussion: Engage students in analyzing examples of scientific texts to identify lexical and syntactic features and discuss translation strategies. Divide students into small groups and provide a short scientific text (e.g., a research abstract, technical manual excerpt). Each group will:</p> <ul style="list-style-type: none"> • Identify specialized terminology and complex sentence structures. • Discuss potential challenges in translating these features. • Propose strategies for overcoming these challenges. <p>Individual Practice: Allow students to independently analyze and translate a scientific text, applying strategies discussed in the lecture and class discussion. Students work independently, applying the following:</p> <ul style="list-style-type: none"> • Use glossaries or dictionaries for unfamiliar terminology. • Simplify complex sentence structures where needed while maintaining meaning. • Retain technical precision and logical flow in the translation. 	
2.2	Explicitly transfer the meaning of specialized terminolog	S5	<p>Lecture: Introduce students to the challenges and strategies for transferring specialized scientific terminologies accurately between languages.</p> <ol style="list-style-type: none"> 1. Importance of Specialized Terminologies in Scientific Translation 	<p>Assignment 2 (5 marks)</p> <p>Final Exam (40 marks)</p>



Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
	ies from the source language into the target language		<p>2. Types of Specialized Terminologies (e.g., Universal Terms, Field-Specific Terms, Cultural Variations).</p> <p>3. Strategies for Accurately Translating Terminologies (e.g., Use of Resources, Direct Translation, Transliteration or Borrowing, Paraphrasing or Explanatory Notes, Consistency)</p> <p>Class Discussion: Engage students in analyzing examples of specialized terminologies and discussing their translation challenges and solutions.</p> <ul style="list-style-type: none"> • Provide students with a short scientific excerpt containing specialized terms (e.g., from a biology or engineering research article). • Ask them to identify and analyze: <ul style="list-style-type: none"> • Which terms are straightforward to translate. • Which terms may require transliteration, paraphrasing, or additional research. <p>Group Activity: Provide students with hands-on experience in analyzing and translating specialized scientific terminologies. Divide students into small groups (3-4 members). Groups collaborate to:</p> <ul style="list-style-type: none"> ○ Divide tasks for terminology research and translation. ○ Discuss and agree on the best approach for handling difficult terms. ○ Produce a final translated version of the text. <p>Each group presents one challenging term from the text and explains how they translated it and why.</p>	





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
2.3	Use suitable strategies and procedures in translating these genres	S7	<p>Lecture: Introduce students to strategies and procedures essential for translating scientific texts while addressing challenges unique to these genres.</p> <p>1. Introduction to Scientific Translation Challenges</p> <ul style="list-style-type: none"> ○ Highlight the key challenges in translating scientific texts: ○ Discuss the importance of accuracy and clarity in scientific communication. <p>2. Strategies for Translating Scientific Texts</p> <ul style="list-style-type: none"> ○ Pre-Translation Analysis: ○ Terminology Management: ○ Handling Syntax: ○ Adaptation and Localization: <p>3. Procedures for Effective Translation (e.g., Direct Translation, Borrowing or Transliteration, Paraphrasing or Expanding, Consistency Checks)</p> <p>Class Discussion: Encourage students to analyze and discuss suitable strategies and procedures for translating scientific texts. Divide the class into small groups and provide each group with a short scientific excerpt (e.g., a research abstract, technical manual, or medical document). Assigning tasks. For example:</p> <ul style="list-style-type: none"> • Identify potential challenges in translating the text. • Suggest appropriate strategies and procedures for handling terminology, syntax, and cultural adaptations. <p>Pair Activity: Pair up students and provide them with a short scientific text (e.g., a product manual, research paper excerpt, or technical document). Allow</p>	<p>Quiz (10 marks)</p> <p>Final Exam (40 marks)</p>





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			<p>students to practice applying strategies and procedures to translate a scientific text in pairs. Provide feedback on:</p> <ul style="list-style-type: none"> • The appropriateness of the strategy. • The clarity and accuracy of the translation. 	
3.0	Values, autonomy, and responsibility			
3.1	Reflect on your own learning experience and explore options to continuously develop your competence as translators and communicators.	V1	<p>Class Discussion: Facilitate a discussion to help students reflect on their learning experiences, identify strengths and weaknesses, and explore ways to improve. Divide students into small groups and ask them to discuss:</p> <ul style="list-style-type: none"> ○ Their personal learning experiences in translating scientific texts. ○ Strategies they've found useful in improving their skills. ○ Resources (e.g., glossaries, tools, or techniques) they've used or plan to use for continuous learning. <p>Observation: Observe students as they engage in reflective discussion and group activities to evaluate their ability to assess their learning process and identify areas for growth. Monitor how students engage in discussions:</p> <ul style="list-style-type: none"> • Are they actively participating and sharing their experiences? • Are they listening to and respecting the perspectives of others? • Are they able to articulate their strengths and weaknesses effectively? <p>Group Activity: Divide students into groups of 3-4 and assign the task. Help students create actionable plans to improve</p>	The course coordinator will decide the specific details of this assessment, including the format, criteria for evaluation, and how the results are measured.





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			<p>their skills and competence as scientific translators and communicators. Discuss and create a “Development Plan” that includes:</p> <ul style="list-style-type: none"> ▪ Specific skills they want to improve (e.g., terminology research, syntax simplification). ▪ Resources they will use (e.g., scientific glossaries, online courses, translation tools). ▪ Actions they will take (e.g., practice translating, seek feedback from peers, attend workshops). 	
3.2	Communicate appropriately, accurately and effectively while involved in group tasks.	V2	<p>Individual Consultation: Provide students with personalized feedback on their communication skills and strategies for improvement when working in group tasks. Meet with students one-on-one for brief discussions. Provide feedback on their role in group tasks, focusing on:</p> <ul style="list-style-type: none"> • How well they communicate their ideas. • How they adapt to the group’s dynamics and respect diverse perspectives. <p>Observation: Observe students’ communication skills during a collaborative group task to identify strengths and areas for development. Observe each group as they collaborate, focusing on:</p> <ul style="list-style-type: none"> • Clarity: Are students articulating their ideas and instructions clearly? • Accuracy: Are they ensuring the correct use of terminology and maintaining scientific meaning? • Effectiveness: Are they listening to one another, providing constructive feedback, and reaching a consensus? 	The course coordinator will decide the specific details of this assessment, including the format, criteria for evaluation, and how the results are measured.





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			<p>Take notes on behaviors and interactions, including positive examples of teamwork and areas where communication can improve.</p> <p>Group Work: Allow students to practice effective communication while collaborating on a scientific translation task. Divide the class into small groups (3-4 members). Assign a scientific text for translation (e.g., an excerpt from a research paper or user manual). Instruct groups to:</p> <ul style="list-style-type: none"> ○ Analyze the text, identifying terminology and syntactic challenges. ○ Discuss translation strategies collaboratively. ○ Produce a translated version of the text while ensuring scientific accuracy and clarity. <p>Provide feedback on:</p> <ul style="list-style-type: none"> • The accuracy of the translation. • The effectiveness of their communication and teamwork. 	
3.3	Display a commitment to the learning process by consistently attending classes, actively participating in discussions and	V3	<p>Attendance Tracking: Ensure students' consistent attendance and encourage punctuality as a demonstration of commitment to the learning process.</p> <ul style="list-style-type: none"> ○ Prepare a digital or physical attendance sheet. ○ Include additional columns to track punctuality and participation in group work. ○ Take attendance at the beginning of the session. ○ Note late arrivals and provide reminders about the importance of punctuality. 	The course coordinator will decide the specific details of this assessment, including the format, criteria for evaluation, and how the





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
	activities, and showing respect for diverse opinions and perspectives		<ul style="list-style-type: none"> ○ Briefly highlight the connection between attendance, active participation, and overall learning outcomes. ○ At the end of the session, acknowledge students' efforts in attending and engaging actively. ○ Highlight any trends or improvements in class participation. <p>Observation: Observe students' active participation, collaboration, and respect for diverse perspectives during a group activity. Introduce a collaborative translation task related to scientific texts (e.g., translating a short research abstract or a technical manual). Divide the class into groups of 4-5 and assign roles to each member, such as:</p> <ul style="list-style-type: none"> • Lead translator: Oversees the group's work and ensures consistency. • Terminology researcher: Looks up and verifies scientific terms. • Reviewer: Checks the final translation for accuracy and clarity. <p>Monitor group interactions and take notes on:</p> <ul style="list-style-type: none"> • Participation: Are all members contributing to the task? • Collaboration: Are students working together effectively and sharing ideas? • Respect: Are students listening to each other and valuing diverse perspectives? <p>Note specific examples of positive behaviors and areas for improvement.</p> <p>Group Work: Encourage students to actively participate in a collaborative task, demonstrating respect and commitment to learning. Provide a short scientific text for</p>	results are measured.





Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
			<p>translation (e.g., a paragraph from a research article, technical manual, or medical report). Instruct groups to:</p> <ul style="list-style-type: none"> Analyze the text, identifying potential challenges (e.g., terminology, syntax, or cultural adaptation). Collaboratively develop a translation that is accurate and meaningful. Reflect on the group's process and how diverse perspectives contributed to the outcome. 	

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Scientific Translation: Lexical, syntactic and stylistic features of texts in the different genres related to science in both Arabic and English.	8
2.	Problems and challenges in scientific translation.	8
3.	Strategies and approaches for the translation of scientific texts.	8
4.	Assorted texts on various recent scientific topics for the purpose of translation practice such as: astronomy, chemistry, physics, biology, technology, engineering, research papers etc.	21
5.	Arabization (pages 156-171).	4.5
6.	Stylistic problems: the importance of style, style of parallelism, style of formality vs informality (pages 222-230).	4.5
Total		45

This schedule accounts for the complexity of the tasks and the time required for teaching and practice and includes additional time for review and assessment. The distribution may need adjustments depending on the students' progress and the actual time each topic requires. Always be ready to adapt and change according to the needs of the students.

Remember that it's important to have interactive activities, engage students in discussion, and incorporate real-life context into teaching to help students better understand and apply what they've learned.

D. Students Assessment Activities

Outlined below are the student assessment activities for this course, each mapped to an overarching course-level learning outcome. While this mapping provides a broad framework for understanding the intended skills and competencies to be gained, it is worth emphasizing that it does not fully encapsulate the evaluation spectrum. Beyond the scope of course-level



learning outcomes, assessments also capture unit-specific and lesson-specific aspects integral to evaluating the full spectrum of student academic achievement and growth. Hence, these assessments are not confined solely to the learning outcomes to which they are mapped; they also evaluate the nuanced objectives specified in individual units/chapters and lessons within the course. **Please note that the Midterm is cumulative, covering the course material until that point in time, whereas the final exam encompasses the entire course.** Although all assessments are mapped to specific learning outcomes, this should not be considered a limitation. In the table below, you'll find a quiz listed among various assessments. If only one quiz is indicated, it may be divided into two parts at the discretion of the course teaching team, with the original grade allocation being proportionally adjusted.

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Formative Assessment 1 (5 Marks) CLO Measured: 1.1	3	5%
2.	Formative Assessment 2 (5 Marks) CLO Measured: 2.1	5	5%
3.	Assignment 1 (5 Marks) CLO Measured: 1.2	6	5%
4.	Assignment 2 (5 Marks) CLO Measured: 2.2	9	5%
5.	Quiz (10 Marks) CLO Measured: 2.3	11	10%
6.	Midterm Exam (30 Marks) CLO Measured: 1.3 While aligned with a specific CLO for measurement purposes, this comprehensive exam covers all course materials and assesses the knowledge, understanding, and skills up until this point in time.	7	30%
7.	Final Exam (40 Marks) CLO Measured: 2.3 Although aligned with a certain CLO for measurement purposes, this comprehensive final exam evaluates the knowledge, understanding, and skills across all topics covered throughout the course.	16	40%
Overall Total			100%

E. Learning Resources and Facilities

1. References and Learning Resources

Required Textbooks	<p>A comprehensive course notebook, compiled and approved by the Translation Department, contains curated scientific texts, key theoretical concepts, and practical activities drawn from a variety of relevant sources to support the course content. Instructors and students are, however, recommended to refer to the following textbooks:</p> <ul style="list-style-type: none"> Lahlali, E. M., & Abu Hatab, W. (2022). Advanced English-Arabic translation: A practical guide (2nd ed.). Edinburgh University Press. (Chapter 4) Elewa, A. (2020). Scientific and Medical Translation. Qalam for Translation and Publication. (Chapter 18) Elewa, A. (2016). Scientific and Medical Translation. Qalam for Translation and Publication. Baalbaki, M. (2009). Al-Mawrid: English-Arabic, Arabic-English dictionary (Arabic ed.). Dar El Ilm Lilmalayin.
Essential References	
Electronic Materials	
Other Learning Materials	

3. Required Facilities and equipment

FACILITIES	<ul style="list-style-type: none"> Standard Classrooms (Capacity 25-30 students) Specialized labs Multimedia rooms Study areas
TECHNOLOGY EQUIPMENT	<ul style="list-style-type: none"> Computer and internet connection for instructors Projectors Smart boards Subject-specific softwares Audio-visual devices
OTHER EQUIPMENT	<ul style="list-style-type: none"> Textbooks Reference materials Subject-specific learning resources Supplementary materials



ADDITIONAL RESOURCES

- Optional: Mobile Charging Station

F. Assessment of Course Quality

Items	Resources	
Efficacy of Pedagogical Approaches	<ul style="list-style-type: none"> ❖ Principal Instructor ❖ Academic Peer Review Panel ❖ Student Evaluation Subcommittee 	<ul style="list-style-type: none"> ❖ Classroom Observations Utilizing Standardized Rating Instruments ❖ Peer Review Assessments Following Institutional Guidelines ❖ Triangulated Student Feedback Mechanisms Including Anonymized Surveys and Focus Groups
Integrity and Effectiveness of Student Assessments	<ul style="list-style-type: none"> ❖ Principal Instructor ❖ Independent Academic Auditors ❖ Extern Advisory Board 	<ul style="list-style-type: none"> ❖ Assessment Tool Validation through Quantitative and Qualitative Methods ❖ Employing Rubric-Based Evaluations With Inter-Rater Reliability Measures
Quality and Relevance of Educational Resources	<ul style="list-style-type: none"> ❖ Principal Instructor ❖ Student Curriculum Feedback Panel ❖ Educational Technology and Resources Committee 	<ul style="list-style-type: none"> ❖ Utilizing Resource Evaluation Metrics and Checklists ❖ Student Resource Utilization Surveys ❖ Comparative Analysis with Nationally and Internationally Recognized Educational Standards
Achievement Level of Course Learning Outcomes (CLOs)	<ul style="list-style-type: none"> ❖ Principal Instructor ❖ Deanship of Academic Development and Quality ❖ Program Level Quality Committee 	<p>1. Semester-End Learning Outcome Mapping: Systematic mapping of all questions on all assessments to course and program learning outcomes is conducted at the end of each semester. This process involves the use of a specialized Excel sheet</p>



from the Deanship of Academic Development and Quality, which operates at two levels:

- ❖ **First Level:** An assessment blueprint is created, in which each question on all assessments is mapped to a specific Course Learning Outcome before the assessments are conducted.
- ❖ **Second Level:** After the assessments are administered, the results for each question are inputted to evaluate the alignment and performance against the predetermined Course Learning Outcomes.

2. Program Learning Outcome Surveys:

Rigorous surveys are designed and implemented to quantitatively and qualitatively measure the attainment of program-specific learning outcomes.

3. Course Satisfaction Surveys: Comprehensive course satisfaction surveys are carried out, using factor analysis to identify key variables that influence student satisfaction levels.

4. Alignment and Quality Committee Oversight:

Each Course Learning Outcome is meticulously aligned with a corresponding Program Learning Outcome.





Both are documented in the course specification and must be adhered to. A separate analysis on this alignment is conducted by the Program Level Quality Committee to ensure compliance and effectiveness. It is imperative that all instructors duly complete this alignment as outlined.

G. Specification Approval

COUNCIL /COMMITTEE	COLLEGE COUNCIL
REFERENCE NO.	15
DATE	FEBRUARY 12, 2023

