

Mongolian University of Science and Technology



GRADUATE SCHOOL OF BUSINESS

DOCTORAL STUDENT HANDBOOK



Ulaanbaatar, Mongolia 2024

DOCTORAL STUDENT HANDBOOK

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This English version of "Doctoral student handbook" was approved by the Academic Council of Graduate School of Business, Mongolian University of Science and Technology on March 7, 2024. If there are any comments, criticisms, and request for the handbook, please contact us with the address below.

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ABBREVIATIONS

GPO	Graduate Programs Office
GSB	Graduate School of Business

MUST Mongolian University of Science and Technology

ASO Academic Service Office (Education and Quality Office)

VDRC Vice Dean for Research and Collaboration DRT Department of Research and Technology

CONTENTS

ABBREVIATIONS	3
I. INTRODUCTION	
Faculty information	6
Doctoral programs	10
II. LEARNING ACTIVITIES	
Admission	14
Admission for foreign citizens	14
Course option	15
How to choose a course online?	16
Course grading and evaluation criteria	17
Alternate grading systems and markings	18
Assessment of learning and research work (Certification)	18
Comprehensive examination	18
Certificate of completion for degree candidate III. RESEARCH ACTIVITIES	
Advisory team discussion	
Dissertation work discussion 1 and 2	
Dissertation work discussion 3	
Research paper publication	
Doctoral degree council and preliminary and final defense of the the APPENDIX	
Appendix-1. Rules of the Doctoral Degree Council (doctoral student)	
criteria)	24
Appendix-2. Regulation for graduate school learning and research	
activities (Execution and defense of the doctoral dissertation)	
Appendix-3. Requirements for writing, publishing, and submitting do dissertations	
Appendix-4 Research environment of GSB	34
Library (Access to international research databases)	34
GSB academic journals and academic conferences	
Other sources of academic research	
Checklist for Publishing a Scientific Paper	36

I. INTRODUCTION

GSB is one of the affiliated schools in MUST. For details of the school's education and research environment, please refer to the appendix (Appendix-4).



Б Y ЗӨВЛӨЛ	All of master and doctoral programs in GSB are officially accredited by the National Council for Education Accreditation under the Ministry of Education and Science of Mongolia.
eduniversal	Since 2008, GSB has been regularly selected as the leading business school at the national level with "I leaf" in the "World's 1000 Best Schools" determined by the "Eduniversal Association of World Economics and Business Management Schools". In 2017, it has become one of the best schools in Southeast Asia with "2 leaves".
ACBSP	The master's and doctoral programs of GSB were accredited by the International ACBSP organization in 2013, 2024 and successfully confirmed their certification in 2017 and 2021.
BID ⊕ man	GSB has ranked one for six consecutive years in the EDUNIVERSAL Rankings among world top thousand universities of economics and business since 2008 and has awarded with International Quality Crown from Business Initiative Directions (BID) by its business achievement and service quality among business organizations of 179 countries in 2014.

Our school is always open to you, the intellectual youths who bring development to Mongolia and the world, and we are ready to cooperate with you in developing your professional and research skills to an advanced level.

Faculty information



Battuvshin Gurbazar (Ph.D), Professor

Position: Dean

Research area: Regional Development Policy, Macroeconomic Analysis, Employment & Wage Policy, Contemporary Economic Issues, Crisis Economy, Education Reform

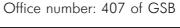
Address: e-mail: battuvshin@must.edu.mn Office number: 406 of GSB



Banzragch Mijiddorj (Ph.D), Assoc. Prof. **Position:** Vice Dean for Education, Quality Research area: Portfolio Theory, Behavioral Finance, Financial Time Series Analysis & Modeling, Econometric Analysis & Modeling,

Decision Making, Risk Management

Address: e-mail: banzraachm@must.edu.mn





Tamir Oyunbileg (Ph.D), Assoc. Prof.

Position: Vice Dean for Research Collaboration

Research area: Strategic Management, Sustainable Development, Marketing Strategy, Consumer Behavior Studies, Customer Relationship Management, Market Research and Analysis

Address: e-mail: tamiraa 0127@must.edu.mn Office number: 409 of GSB

Management,

Globalization,



Position: Head of Department for Business Administration & Management



Address: e-mail: ovuntunaalaa@must.edu.mn

Office number: 408 of GSB





Batkhurel Gombodorj (Sc.D in Economics), *Professor* (Honored Economist of Mongolia)

Position: Grand Professor

Research area: Management Theory, Educational Management, Strategic Management, Resource Management, Management Psychology, Transportation & Logistics Management, Mongolian Economy, Management Thinking & Heritage Studies

Address: e-mail: batkhurel@must.edu.mn Office number: 105 of GSB



Baasandash Choijil (Ph.D), Professor

Position: Full Professor

Research area: Innovation, Entrepreneurship, Higher Education, Research Methodology, Laser Processing, Magnesium Battery, Fluid Dynamics,

Agricultural Resource Connectivity

Address: e-mail: basanda.c.aa@must.edu.mn Office number: 132 of GSB



Ganchimeg Jamsran (Ph.D), Professor

Position: Professor responsible for "Management"

Programs

Research area: Logistics Projects, Supply Chain Management Issues, Transportation Planning & Optimization & Modeling, Production & Service Industry Research, Business Process Analysis, Market Research & Analysis

Address: e-mail: aanchimea@must.edu.mn Office number: 412 of GSB



Altantsetseg Battulga (Ph.D)

Position: Professor responsible for "Business Administration" "Public Management" Programs

Research area: Human Resource Management, Organizational Behavior Theory, Organizational Theory, Social Network Theory & Analysis, Eco-Innovation. Sustainable Development of SMEs

Address: e-mail: b.altantsetsea@must.edu.mn Office number: 410 of GSB



Munkhuu Norovsambuu (Ph.Dl. Assoc. Prof.

Position: Professor

Research area: Entrepreneurship, Innovation,

Development through Clusters

Address: e-mail: nmunhuu@must.edu.mn Office number: 408 of GSB



Amarzaya Ukhaa (Ph.D), Assoc. Prof.

Position: Professor

Research area: Human Management, Management, Human Resource Resource Metrics & Audit, Regional Development Policy

Planning

Address: e-mail: amarzaya.u@must.edu.mn

Office number: 410 of GSB



Ganbat Erdenebat (Ph.D)

Position: Professor

Research area: Brand Management, Brand Value Assessment Methodology, Sustainable Development, Economics & Market Research Address: e-mail: aanbat.otu@must.edu.mn

Office number: 410 of GSB



Purevdagva Khad (Ph.D), Professor (Honored

Teacher of Mongolia)

Position: Contracted Professor

Research **area:** Organizational Studies. Human Management Functions, Strategy,

Resources

Address: e-mail: purevdagva@must.edu.mn

Office number: 400 of GSB



Narangerel Bagaa (Ph.D), Professor

Position: Contracted Professor

Research area: Microeconomics, Management Issues, Marketing & Brand Management Issues **Address:** e-mail:

narangerel bagaa@must.edu.mn

Office number: 410 of GSB



Tugs Sanjdorj (Ph.D), Professor **Position:** Contracted Professor Research area: Technology Management. Development Research Science for Technology, Traditional Technology Utilization Development, of Animal Raw Materials, Research of New Materials

Address: e-mail: sanjdorj@must.edu.mn Office number: 407 of GSB



Bindirya Dugersuren (Ph.D), Assoc. Prof.
Position: Contracted Professor
Research area: Public policy, Public security,
Public administration & Management,
Governance, Citizen participation, Gender,
Population Group Development

Position: e-mail: bindirya.d@must.edu.mn
Office number: 412 of GSB



Sarantuya Batsukh (Ph.D), Assoc. Prof.

Position: Contracted Professor

Research area: Accounting, Auditing Research, Management Records, Financial Information Systems

Address: e-mail: saraatuul@must.edu.mn Office number: 410 of GSB

Doctoral programs

The Doctoral Programs of GSB are based on and regulated by the "Rules of the Council for Doctoral Degrees" approved by the Order No. A/575 of the Ministry of Education and Culture dated December 25, 2023; and the "Regulation for Graduate School Learning and Research Activities" approved by order No. A/202 of the president of MUST dated June 7, 2023. (Appendixes 1 and 2).

You can study in one of three doctoral programs: "Business Administration", "Management", "Public Management" and apply for a doctorate (Ph.D) degree. Even you complete the courses for the doctoral program, the "Doctoral Defense Board" of the Ministry of Education and Culture will decide whether or not to grant you a doctorate degree. You will be called as "candidate for the doctoral degree" until you successfully defend your dissertation.

Below are the plans for each program.



MONGOLIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY GRADUATE SCHOOL OF BUSINESS

"BUSINESS ADMINISTRATION" DO CTO RAL CURRICULUM

The degree of education to be conferred: Ph.D (Doctorate)

The education level of entrants: Master

Training duration	n: 3.0 years			
COURSECODE	COURSENAME	CREDIT	PRE COURSE	SEMESTER
CORECOURSE	S:	D12		
A. Required cou	rses:	D6		
S.BAM800	Theoritical development and trends of management	2		Any
S.DEM800	Theoritical development and trends of economy	2		Any
	Research methods and design	2		Any
B. Elective cours	es:	D6		
S.DMM801	System dynamic modeling	2		Any
S.EIM800	Entrepreneurship and innovation	2		Any
S.SSN800	Sustainability and social responsibility	2		Any
S.REM801		2		Any
	Digital transformation	2		Any
	Mongolian management tradition and innovation	2		Any
	Project finance	2		Any
SPECIALIZED C		D18		
A. Required cou		D6		
	Theory and trends of organizational behavior	3		Any
	Global business strategy	3		Any
B. Elective cours		D12		
	Change management and strategy	3		Any
	Theory and trends of human resource management	3		Any
Q.BAA805	Science of investment	3		Any
Q.BAA806	Theory and methodology of financial management	3		Any
Q.BAA807	Theory and methodology of marketing management	3		Any
Q.MAM807	Regional development policy	3		Any
	B Environmental management system	3		Any
Q.MAM809	Theory and practices of information system management	3		Any
Q.MAM80	Decision making and optimization	3		Any
Q.BAM808	Theory and trends of customer behaviour	3		Any
RESEARCH AND	O THEO RITICAL SEMINAR	D6		
Q.BAA860	Research and theoritical seminar: quantitative research	3		Any
Q.BAA861	Research and theoritical seminar: qualitative research	3		Any
DOCTORAL DIS	SSERTATION	D24		
Q.BAA870	Experimental and research work	10		Any
Q.BAA880	Doctoral comprehensive examination	2		Any
Q.BAA890	Doctoral dissertation	12		Any
DOCTORAL TR	AINING:			
	CORECOURSES	12		
	SPECIALIZED COURSES:	18		
	RESEARCH AND THEO RITICAL SEMINAR	6		
	DO C TO RAL DISSERTATION	24		
	TO TAL CREDIT:	60		



MONGOLIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY GRADUATE SCHOOL OF BUSINESS

"MANAGEMENT" DO CTORAL CURRICULUM

Major index: F041303

The degree of education to be conferred: Ph.D (Doctor)

The education level of entrants: Master

Training form: Day

Training duration: 3.0 years

COURSECODE	COURSENAME	CREDIT	PRE COURSE	SEMESTER
CORE COURSES:		D12		
A. Required cour	A. Required courses:			
S.BAM800	Theoritical development and trends of management	2		Any
S.DEM800	Theoritical development and trends of economy	2		Any
S.RMM800	Research methods and design	2		Any
B. Elective course	es:	D6		
S.DMM801	System dynamic modeling	2		Any
S.EIM800	Entrepreneurship and innovation	2		Any
S.SSN800	Sustainability and social responsibility	2		Any
S.REM801	Academic english	2		Any
S.DT M800	Digital transformation	2		Any
S.BAM801	Mongolian management tradition and innovation	2		Any
S.BAM802	Project finance	2		Any
SPECIALIZED CO	OURSES:	D18		
A. Required cour	ses:	D6		
Q.MAA801	Theory and trends of operation management	3		Any
Q.MAA802	Theory and trends of strategic management	3		Any
B. Elective course	es:	D12		
Q.MAA803	Theory and trends of logistic management	3		Any
Q.MAA804	Theory and practices of technology management	3		Any
Q.MAM807	Regional development policy	3		Any
Q.MAM808	Environmental management system	3		Any
Q.MAM809	Theory and trends of information system management	3		Any
Q.BAA804	Theory and trends of human resource management	3		Any
Q.BAA806	Theory and methodology of financial manaegement	3		Any
Q.BAA807	Theory and methodology of marketing manaegement	3		Any
Q.MAA806	Business process modeling and decision making	3		Any
Q.MAA810	Performance assessment methodology of health, safety and environment	3		Any
RESEARCH AND	THEO RITICAL SEMINAR	D6		-
Q.MAA860	Research and theoritical seminar: quantitative research	3		Any
Q.MAA861	Research and theoritical seminar: qualitative research	3		Any
DOCTORAL DIS		D24		*
Q.MAA870	Experimental and research work	10		Any
,	Doctoral comprehensive examination	2		Any
,	Doctoral dissertation	12		Any
DOCTORAL TRA				,
	CORECOURSES	12		
	SPECIALIZED COURSES:	18		
	RESEARCH AND THEO RITICAL SEMINAR	6		
	DOCTORAL DISSERTATION	24		
	TO TAL CREDIT:	60		



MONGOLIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY GRADUATE SCHOOL OF BUSINESS

"PUBLIC MANAGEMENT" DO CTO RAL CURRICULUM

Major index: F041306

The degree of education to be conferred: Ph.D (Doctorate)

The education level of entrants: Master

Training form: Day

Training duration: 3.0 years

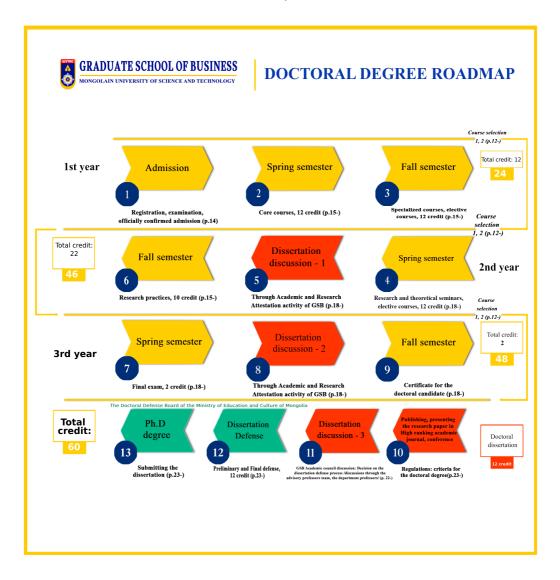
COURSECOD	E COURSENAME	CREDIT	PRE COURSE	SEMEST
CORECOURS	S:	D12		
A. Required cou	rses:	D6		
S.BAM800	Theoritical development and trends of management	2		Any
S.DEM800	Theoritical development and trends of economy	2		Any
S.RMM800	Research methods and design	2		Any
B. Elective cour	ses:	D6		
S.DMM80	System dynamic modeling	2		Any
S.EIM800	Entrepreneurship and innovation	2		Any
S.SSN800	Sustainability and social responsibility	2		Any
S.REM801	Academic english	2		Any
S.DT M800	Digital transformation	2		Any
S.BAM801	Mongolian management tradition and innovation	2		Any
S.BAM802	Project finance	2		Any
SPECIALIZED (OURSES:	D18		
A. Required cou	rses:	D6		
Q.BAB801	Public policy research	3		Any
Q.BAB802	Theory and practices of public management	3		Any
B. Elective cour	ses:	D12		
Q.BAB803	Central and local governance	3		Any
Q.BAB804	Government and public relations	3		Any
Q.BAA805	Regional development policy	3		Any
Q.BAB806	Public economics and finance analysis	3		Any
Q.BAB807	Control, assessment and audit	3		Any
Q.BAB808	International relations	3		Any
Q.MAM80	7 Regional development policy	3		Any
Q.BAA801	Theory and trends of organizational behavior	3		Any
Q.MAM80	5 Decision making and optimization	3		Any
B.SSM809	Social innovation	3		Any
RESEARCH AN	D THEO RITICAL SEMINAR	D6		
Q.BAB860	Research and theoritical seminar: quantitative research	3		Any
Q.BAB861	Research and theoritical seminar: qualitative research	3		Any
DO C TO RAL DI	SSERTATION	D24		
Q.BAB870	Experimental and research work	10		Any
Q.BAB880	Doctoral comprehensive examination	2		Any
Q.BAB890	Doctoral dissertation	12		Any
DO C TO RAL TR	AINING:			
	CORECOURSES	12		
	SPECIALIZED COURSES:	18		
	RESEARCH AND THEO RITICAL SEMINAR	6		
	DO CTO RAL DISSERTATIO N	24		
	TO TAL CREDIT:	60		

MUST has completely used the credit system, and you can choose to study according to your plan from the courses included in the curriculum.

*** By evenly and optimally distributing the doctoral courses in 6 semesters, the course attendance can be completed in a minimum of 3 years.

Doctoral degree roadmap

The doctoral degree roadmap illustrated below covers 13 stages. The yellow arrows show the core, specialized courses attending processes, the red arrows show the research processes, and the green arrows show the processes of defending the dissertation by the Doctoral Defense Board of the Ministry of Education and Culture. Please also note the credit points for the courses to be completed for each corresponding year. You can also read the detailed description and recommendations of each process by going to the page number in quotation marks below. With this map, we offer you the opportunity to complete the doctoral program and accomplish your Ph.D degree in at least 3-4 years. But please note that all of this depends on how the doctoral student accurately plans with the allocation of resources such as time, money, and effort.



II. LEARNING ACTIVITIES

Admission

Admissions to the doctoral program occur biannually, during the fall and spring semesters. Information regarding registration is disseminated to the public two months prior to the commencement of the entrance examination.

1. ADMISSION REGISTRATION

REGISTRATION TIME AND PLACE:

- In VIII-IX, I-II months of every year
- The Integrated Enrollment Registration System of MUST
- https://burtgel.must.edu.mn/doctor/Home/RegisterDoctor

REQUIRED MATERIALS:

- Completed enrollment registration form
- Educational references from the E-Mongolia electronic registration system (Bachelor's and Master's degree diplomas should be registered in both the Higher education management information system and E-Mongolia electronic registration system)
- For graduates of foreign universities, a reference from the relevant higher education institution in that country
- A copy of the identity card
- Original documents verifying previous education
- Certification translation into Mongolian for educational documents in a foreign language
- Enrollment registration fee

RESPONS/BLE: Building 2 of MUST, DRT - GPO, ASO of GSB

2. THE ENTRANCE EXAMINATION

TIME:

In September and February of every year

FOREIGN LANGUAGE EXAMINATION and PROFESSIONAL INTERVIEW:

- The entrance exam is centrally organized by GPO, requiring candidates to undergo a foreign language
 proficiency test and a professional interview. Candidates with valid international test scores such as
 IELTS and TOEFL may be exempted from the foreign language test.
- Results of the entrance examination will be communicated to candidates through the unified registration system.
- Successful candidates will be enrolled as doctoral students by the Faculty of Education at constituent school, and a study contract will be formalized with the constituent school director.

DECASION: A directive will be issued to determine the professional and research direction, supervisor, and advisory team for newly admitted doctoral students, emphasizing the importance of diverse expertise and collaborative mentorship.

RESPONSIBLE: ASO, VDRC, and Research and innovation officer of the GSB

3. COMMENCEMENT OF LEARNING AND RESEARCH ACTIVITIES

TIME:

• Week-4 of both the fall and spring semesters within the academic year.

COURSE OPTION:

- GSB staff will furnish new students with details regarding student codes and available courses.
 Subsequently, confirmation of Course options 1 and 2 is required.
- Learning and research activities will proceed as outlined in the program's curriculum.

RESPONSIBLE: ASO of GSB and the Ph.D student advisory team

Admission for foreign citizens

Foreign nationals aspiring to join the doctoral program at GSB will be accepted for study in compliance with Mongolian pertinent laws and regulations. Additionally, adherence to "Procedures for Studying Foreign Citizens" of MUST is mandatory. Foreign citizens are encouraged to assemble the required documentation as previously specified, undergo the entrance examination, and refer to the English version of MUST's official website for comprehensive details on the admission process, accessible within the "ADMISSION" section. The relevant link: https://www.must.edu.mn/en/

Course option

In the doctoral program at the school, students engaged in "study options 1 and 2" adhere to the unified training calendar. Here are key considerations:

- A directive specifying the doctoral student's course for the upcoming semester is issued around the middle of the semester (typically in the 10th week, or in the fall, generally concluding in late October or early November; in spring, typically at the end of March or early April).
- Selection of "Option -1" occurs via the UNIMIS system's student web page, with registration completed at the ASO. This process dictates the forthcoming term's course list, assigned instructors, and classroom allocations, necessitating a high level of responsibility from the student.
- At the semester's commencement, the doctoral student confirms the prior semester's "Option-1" course, pays the tuition fees, and gains access to selecting the "Option-2" course to the ASO, all in accordance with the unified academic calendar.
- The selection of "Option-2" unveils details like the teaching instructor and course commencement time, granting participation rights in doctoral training.
- A signed printout of the "Option-2" lesson page is submitted to the ASO and archived.
- If the "Option-1" course was not taken in the previous semester, the student forfeits the right to pursue the "Option-2" course. Although, under valid reasons, an additional penalty fee of 1 credit facilitates registration at the ASO.
- For newly admitted doctoral students, the semester's "course options 1 and 2" are scheduled within the specified period according to the unified training calendar.
- Essential information for new students is accessible on the student web page, requiring individual login and proactive familiarization with the webpage's content.

Doctoral student course schedule

Week days schedule		
Period	Hours	
1	07:40 - 09:10	
2	09:20 - 10:50	
3	11:00 - 12:30	
4	13:00 - 14:30	
5	14:40 - 16:10	
6	16:20 - 17:50	
7	18:00 - 19:30	
8	19:40 - 21:10	

Saturday schedule		
Period	Hours	
1	09:00 - 13:30	
2	10:35 - 12:05	
3	12:10 - 13:40	
4	14:00 - 15:30	
5	15:35 - 17:05	
6	17:10 - 18:40	
7	18:45 - 20:15	
8	20:20 - 21:50	

*Note: 1 period lesson lasts 1 hour 30 minutes

How to choose a course online?

<u>www.must.edu.mn</u> → Important links → Student's https://student.must.edu.mn/Login and log in with the student code and password provided by ASO.

Step 2: When accessing the "Study Plan" from the "Student" section located on the left side of the webpage, the doctoral student will encounter the program's study plan. Within this plan, courses that have been viewed will be highlighted in green with the label "completed," while those not yet reviewed will appear in red with the label "not completed" in red, "Option-1" and "Option-2" can be done from the "not completed" courses as illustrated in Figure 1.

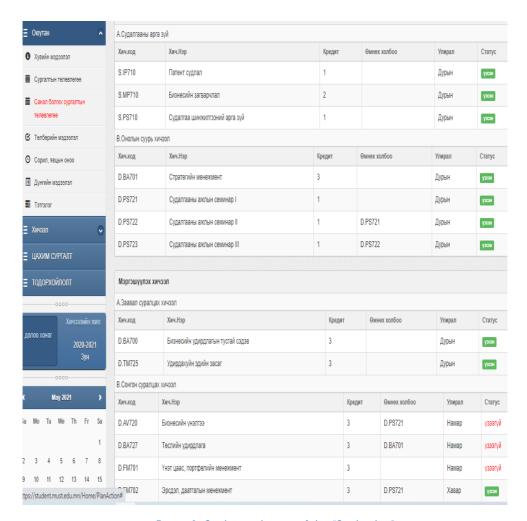


Figure 1. Student web view of the "Study plan"

Step 3: Navigate to the "Course" section on the left side of the webpage and choose either "Course Option 1" or "Course Option 2." In the case of the selected option, the word "active" (идэвхтэй) will be displayed, while for the unselected option, it will be marked as "inactive" (идэвхгүй) (refer to Figure 2 for clarification).

Step 4: Upon selecting "Option-2" for a course, the system will present the courses previously chosen in "Option-1." By clicking on the course name, you can view details such as the assigned instructor and the schedule for the lesson. It allows you to save the instructor and the designated time for future reference or planning. **Step 5:** After selecting your lesson schedule, click on "Print lesson schedule" and print the schedule for the chosen term, sign it, and then submit the signed copy to the ASO for processing.

Important note: If the class is at full capacity during the selection process, and the chosen class time overlaps with a previously selected class time, kindly contact the ASO. In cases where there are more than two instructors assigned to the selected course, you have the

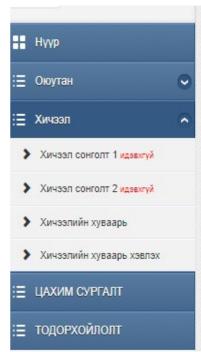


Figure 2. The student web view of "Course option"

option to choose an instructor of your preference. It's crucial to be aware that if you are unable to attend classes after the start of the semester due to personal or other reasons, failure to request an exemption in advance from the ASO may result in being charged the full fee.

Course grading and evaluation criteria

The course results will undergo a two-stage assessment process, which includes:

- Evaluation of the subject: The student's comprehension of the subject will be assessed by the course instructor. This evaluation, conducted in the 16th week of the academic semester, is assigned a maximum of 70 points.
- Assessment of knowledge level: Examinations will be administrated in accordance with the schedule provided by ASO, and the results will be appraised for up to 30 points.

The cumulative score from both evaluations, with a maximum of 100 points, will be converted into a letter grade using the table below:

convenied into a terrer grade comp me ra					
Percentage	Letter grade	Grade			
96-100	А	4.0			
91-95	A-	3.7			
88-90	B+	3.4			
84-87	B+	3.0			
81-83	B-	2.7			
78-80	C+	2.4			

Percentage	Letter grade	Grade
74-77	С	2.0
71-73	C-	1.7
68-70	D+	1.3
64-67	D+	1.0
60-63	D-	0.7
0-59	F	0

Minimum course grades and GPA's requirements:

- To successfully pass a course, a doctoral student must attain a minimum score of 81 or receive a letter grade of "B-" or higher. This criterion encompasses the evaluation of professional background, specialization, and one-on-one course assessments.
- In order to auglify for a doctoral degree, a doctoral student must maintain a cumulative Grade Point Average (GPA) of 3.5 or higher. This overall GPA reflects the student's academic performance across all completed courses and assessments.

Alternate grading systems and markings

At the conclusion of the semester, the following symbols are employed to compute the grade point average (GPA) for each student:

- E No term exam: If a student is unable to take the semester exam due to valid reasons, they may mark "E." In this scenario, the exam will be deferred to the subsequent four semesters. To participate in the exam, students must submit an application to the ASO before the 15th week of the semester or before the exam schedule is released.
- **R Decided to retake a course:** Students opting to retake a course or dissatisfied with the final grade may mark "R." Upon re-selection of the course, the fee will be reimbursed based on the credit of the course.
- W Withdrawal from class: If a student fails to attend a class, nealects laboratory, practical, or homework assignments, or does not fulfill program requirements, the instructor will assign a grade of "W." In such instances, the tuition fee will neither be retained nor refunded. If the student decides to reenroll, they will be required to pay the tuition fee calculated in credit for the course.

Assessment of learning and research work (Certification)

An annual evaluation activity takes place every November to assess the progress of doctoral students' learning and research, providing an in-depth evaluation of the coherence and advancement of their thesis work.

- The doctoral student assumes the responsibility of deciding whether to continue their studies, withdraw, or request a leave of absence based on the outcomes of the assessment.
- A specialized certification commission is established, comprising faculty members under the leadership of AS at GSB. This commission orchestrates the determination of the level of learning and research work, following guidelines provided by the GPO. The final decision is then submitted to the GPO for approval.
- Throughout the doctoral studies, it is mandatory to undergo the level determination of learning and research work at least twice. The "Discussion of Dissertation-1,2," as indicated in the learning and research process map of the doctoral program at GSB, is considered equivalent to this levelsetting process.

Comprehensive examination

To assess the theoretical knowledge of doctoral students in their field of study, they are required to undergo the "Comprehensive Professional Examination" within the

timeframe outlined in the academic calendar. Entry into this examination is contingent upon meeting the following criteria:

- The doctoral student should have studied a total of 46 credit subjects as stipulated in the doctoral curriculum.
- Successful completion of at least 50% of both theoretical and experimental research work.
- The outcomes of the research work must be discussed and endorsed by a meeting of scientists in the relevant field. Detailed protocols of these discussions must be maintained.

The evaluation of the Comprehensive examination is quantified as 2 credit and is documented in the appendix of the doctoral degree diploma. This comprehensive examination for doctoral students occurs biannually, in November and May, aligning with the academic schedule.

Certificate of completion for degree candidate

Upon successful completion of the doctoral program, including passing the comprehensive examination, doctoral students are eligible to receive a certificate of completion and be recognized as a "candidate." The university director issues this approval by order. The submission of the following materials is generally required for the approval process:

- Application for a certificate of completion of doctoral studies
- Protocol of the commission setting the level of learning and research work
- Result of the comprehensive examination
- Definition issued by the supervisor: A statement issued by the research work supervisor, indicating the doctoral student's eligibility to receive a certificate of completion
- Grade sheet (print form student web or ASO)
- Receipt of payments (original document)
- Bill of payments (from the accountant or ASO)

III. RESEARCH ACTIVITIES

Throughout their doctoral journey, students are guided by an advisory team, and several critical discussions must be successfully conducted, protocols maintained, and decisions reached before both the preliminary and actual defense by the Ministry of Education and Science Doctoral Defense Board. The key discussions include:

- Advisory team discussions
- Dissertation work discussion-1 (GSB discussion: the discussion concerning dissertation work, in accordance with the level determination of learning and research work)
- Dissertation work discussion-2 (GSB discussion: the discussion concerning dissertation work, in accordance with the level determination of learning and research work)
- Dissertation discussion-3 (Academic council of GSB)

Upon successful completion of these discussions and meeting the requirements set by the academic council of GSB, the dissertation proceeds to the preliminary and actual defense by the doctoral defense council. This progression marks a significant step towards the final validation of the doctoral research work. The following section provides further details on these discussions.

Advisory team discussion

During their enrollment, doctoral students select an advisory team to guide their research. The advisory team comprises three members, including one supervisor and two advisors. If the research pertains to an interdisciplinary topic, doctoral students are permitted to have two supervisors and one advisor.

- The supervisor plays a pivotal role by defining the research topic, offering guidance in formulating a research plan for the doctoral student, providing professional advice and supervision throughout the dissertation writing process, assessing the content of the work at each stage and holistically, arranging academic and research seminars. Moreover, the doctoral student assumes responsibility for presenting the research results in seminars, while the supervisor creates conducive conditions for these presentations. The supervisor also grants permission for the student to participate in dissertation discussions and ultimately authorizes both the preliminary and final defense.
- An advisory team, comprising three scientists, is appointed in collaboration with the supervisor, with the supervisor included as one of the team members. The approval of the advisory team is granted by the order of the university's president, following the recommendation of the academic council of GSB. This team is tasked with engaging in discussions regarding the doctoral student's research plan, theoretical research outline, research methodology, research process, and results. Their responsibilities extend to providing opinions, drawing conclusions, and offering recommendations. In cases where the doctoral research topic spans multiple disciplines, the advisory team may include two supervisors.
- If there arises a necessity to change the supervisor or the advisory team during the research process, the doctoral student has the option to submit a request or application to the academic council of the GSB.
- "Advisory team discussions" can occur as frequently as needed under the guidance of the supervisor, and the increased frequency of these discussions correlates with more progress in the research work. Detailed protocols for each discussion will be meticulously kept and recorded in the "Personal work plan book of the doctoral student.
- The doctoral student's personal work plan book will be provided by the GPO of MUST upon admission. This book is a vital document that must be submitted to the GPO of MUST before entering the preliminary defense. It is crucial to handle and preserve it carefully throughout the doctoral student's tenure in the program.

Dissertation work discussion 1 and 2

(GSB discussion: the discussion concerning dissertation work, in accordance with the level determination of learning and research work)

The advisory team will be expanded to include a minimum of three scientists specializing in the field of business administration and management at GSB. This expansion aims to facilitate open discussions on research work among both master's and doctoral students.

 Level of research work: At this stage, the research topic, basis, literature review, theory, and methodology are clearly defined. It involves processing the data collected within the scope of the research topic and results of

- analyses using a specific chosen method. A scientific conclusion is then drawn and discussed.
- Results of the discussion: The discussion results include suggestions that will serve as a direction for entering the next round of discussions.
- Discussion 1 and 2 are scheduled annually in November as part of the level-setting process for research work of doctoral students.
- Dissertation topic and supervisor can be modified or adjusted as needed. Discussions can take place in a classroom, online, or a combination of both.
- Before the discussion, the doctoral student engages in prior discussions with their supervisor and advisory team. They submit the application and fulfill the necessary requirements.

Dissertation work discussion 3

(Academic council of GSB)

The Academic Council within the GSB comprises a total of 11 members, comprising both GSB professors or professors and scientists from external universities and professional organizations. During the dissertation discussion, thorough examination and analysis of the research work take place, providing an avenue for valuable opinions and constructive criticisms. Subsequently, a decision is reached to determine whether the work aligns with the prerequisites for the preliminary defense as outlined by the Doctoral Degree Defense Council of the Ministry of Education and Science. Should the assessment indicate that the stipulated requirements have not been met, there is an opportunity for refinement of the dissertation. This involves incorporating the feedback and criticisms obtained during the discussion. Following the necessary revisions, the discussion can then be rescheduled for further evaluation. This iterative process ensures a rigorous examination of the doctoral research, contributing to the academic quality and integrity of the dissertation defense.

- Discussions can take place in the classroom, online, or a hybrid format combining both.
- Upon entering the discussion phase, it is essential to draft the "protocol of the meeting of the advisory group intended for discussion by the academic council of the GSB, definition of the supervisor, and the student's formal request." Subsequently, present this documentation to the head of the academic council of the GSB, who also serves as the director of the GSB. Following the submission of the aforementioned materials, the Vice Dean for Research and Collaboration (VDRC) will be responsible for scheduling and announcing the date of the academic council meeting. This meeting will specifically address and deliberate upon the doctoral student's thesis, ensuring a comprehensive examination of the research work within the academic community.
- Seventy-two hours before the scheduled academic council meeting to discuss the dissertation, the dissertation document is distributed to all council members, either electronically or in print form. The dissertation adheres to established writing standards, as detailed in Appendix-3.
- In the discussion, two folders will be presented to confirm the doctoral student's compliance with criteria from "Clause 6: Requirements for Doctoral Students" of the "Rules of the Council for Doctoral Degrees" (Order No. A/575, 25.12.2023) and "Clause 10: Execution and Defense of Doctoral

Dissertation" of the "*Procedures for Regulating Graduate Level Learning and Research Activities*" (Director's Order No. A/202, 06.07.2023). These folders serve as evidence of adherence to regulations during the assessment process.

The VDRC at GSB is responsible for the preparation of the meeting. To facilitate this, clarification and reference items will be organized for the VDRC.

- Academic council discussions require a 75% or more attendance of the members. The meetings are chaired by the academic council chairman.
- Decisions during the academic council's deliberations are made via secret ballot following established rules. If 75% or more of the attending council members receive a favorable vote, the decision to include the research work in the next level of defense is enacted.
- It is strictly prohibited to vote without active participation in the council's deliberations. Advance voting before the formal voting session is not allowed.

Academic council discussion order:

- The session will commence with the Chairman of the Academic Council, who will inaugurate the discussion and present the agenda. Information pertaining to doctoral students will be provided by the council's secretary (VDRC).
- Following this, the doctoral student will present their research work, allocating 20-30 minutes for the presentation.
- The supervisor will then offer suggestions and conclusions regarding the presented research work.
- Subsequently, a discussion will ensue, involving members of the academic council who will pose questions to the doctoral students and receive responses. Each council member will share their opinions and conclusions within a designated timeframe of 3 minutes.
- A three-member enumeration commission will be established, responsible for conducting a secret ballot vote. The commission will later present and endorse the results of the secret ballot, along with a draft resolution.
- To conclude the session, the Chairman of the Council will formally close the meeting.

Considerations for online participation in discussions

When participating in online discussions, having a tablet, desktop, or laptop enhances the experience due to larger screens and better multitasking with multiple open file windows. Ensure you have a functioning microphone and camera. Electronic meetings will utilize the Microsoft Teams program, and invitations will be sent to your email. To join, simply click the "Join a meeting" button. If it's your first time participating, check for any technical issues beforehand to ensure a smooth discussion.

Key considerations for e-meetings:

- 1. Acquaint yourself with the "Microsoft Teams" program and its usage instructions for seamless participation in electronic meetings.
- Ensure timely submission of doctoral theses and presentation files before the scheduled discussion, considering the option of printing and preparation if needed.

- 3. Have a power source available for charging mobile phones, tablets, and laptops during online discussions.
- 4. If using a desktop computer, verify the functionality of the speaker, camera, and microphone for effective communication.
- 5. Be mindful of potential disruptions from incoming calls on your mobile phone; switch to "Offline" or "Do not disturb" mode as needed.
- 6. Manage audio disruptions: mute the microphone in the presence of background noise, ensuring a quiet environment. Only unmute when speaking to avoid disturbance. Note that an open microphone indicates an active speaker.
- 7. Adhere to the discussion leader's order to avoid simultaneous speaking.
- 8. Keep the chat window open for sending comments and questions, actively engaging with the meeting leader and participants for information exchanae.
- 9. Maintain a clutter-free screen by refraining from opening multiple windows or using multiple programs simultaneously, ensuring a focused and organized virtual environment.

Research paper publication

Clause 6 of the "Rules of the Doctoral Degree Council," sanctioned by Order No. A/575 on 25.12.2023 from the Ministry of Education and Science, delineates the prerequisites for doctoral students (refer to Appendix-1). Furthermore, as stipulated by the Director of MUST in Clause 10 of the "Procedures for Regulating Advanced Education and Research Activities," endorsed by Order No. A/202 of 2016, an academic article must be published in accordance with the specifications for the preparation and defense of doctoral dissertations (see *Appendix-2*). This condition is obligatory and should be fulfilled before the academic council hearing.

Doctoral degree council and preliminary and final defense of the thesis

The "Doctoral Degree Defense Council," established under the "Doctoral Degree Defense Council Rules (Appendix-1)" by Ministry of Education and Science Order No. A/575 on 12.25.2023, oversees both preliminary and actual dissertation defenses. Requirements for doctoral dissertation work comply with auidelines in the appendix to the "Procedures for regulating advanced training and research activities," approved by the director of the MUST through Order No. A/202 on 06.07.2023 (Appendix-2).*1

translation in this English version of "Doctoral student handbook". Please carefully refer the original form of the above 2 important regulations.

¹ *The translated parts from the official regulations, "Doctoral Degree Defense Council Rules (*Appendix-1*)" by Ministry of Education and Science Order No. A/575 on 12.25.2023"; "Procedures for regulating advanced training and research activities," approved by the director of the MUST through Order No. A/202 on 06.07.2023" are not the official translation. Therefore, there is no responsibility for the outcome from these

Appendix-1. Rules of the Doctoral Degree Council (doctoral student criteria)



ORDER OF THE MINISTER OF EDUCATION AND SCIENCE OF MONGOLIA

25.12.2023 N∘ A/575 **Ulaanbaatar**

Regarding the **Adoption** New Regulations

In accordance with Article 24, Part 2 of the Law on the Government of Mongolia, and Article 21, Part 21.6 and 24.2.3 of the Law on Higher Education, this order is issued:

- 1. The "Rules of Doctoral Degree Defense Council" are to be revised, as attached.
- 2. The directors and heads of the Office of Higher Education. Research and Research Organizations, Science and Technology Foundation are entrusted with the responsibility of implementing the approved rules.
- 3. The Department of Higher Education Policy Management and Coordination (H. Tamir) and the Department of Science and Technology Policy

and Innovation Development and Implementation Coordination (D. Battogtokh) will oversee the management and coordination of the implementation of the Doctoral Degree Council rules, along with providing professional supervision of the council's activities. The Branch Inspection Department (B. Togsbayar) is designated to work on this task.

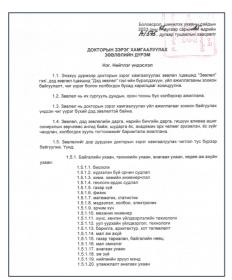
4. The Inspection and Evaluation Department (N. Narangerel) is assigned the responsibility of monitoring and evaluating the implementation of this order every two years and presenting conclusions.

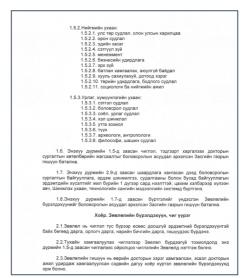
> MINISTER Luvsantseren ENKH-AMGALAN

(The original version of this rule is accessible on Mongolian legal database. https://legalinfo.mn/mn/detail?lawld=17048144718081

It is recommended to carefully read the following provisions outlined in this rule. It includes:

- 1. Fields for establishing councils
- 2. Composition, organization and functions of the defense council
- 3. Composition, organization and functions of the defense sub-council
- 4. Activities of the sub-council for doctoral degree
- 6. Requirements for doctoral student





Annex to Order No. A/575 of the Minister of Education and Science dated 25.12.2023

RULES FOR DEFENSE OF DOCTORAL DEGREE

One. Common Ground

- 1.1. This rule governs the composition, organization of activities, functions, and other relevant relations of doctoral degree defense councils and sub-councils.
- 1.2. The Council will operate university-wide and on a part-time basis.
- 1.3. The council includes a sub-council whose primary function is to organize the doctoral degree defense.
- 1.5 The council will be established for each of the doctoral degree programs mentioned below. It includes:
- 1.5.2. Social Intelligence:
 - 1.5.2.5. Management
 - 1.5.2.6. Business Management
 - 1.5.2.10. Public Administration and Policy Studies

Six. Requirements for doctoral students

- 6.1. A doctoral candidate must meet the following requirements:
- 6.1.1. Have completed all the learning and academic hours of the doctoral program and received a satisfactory grade in the relevant examinations taken by the school or program implementation unit.
- 6.1.2. The program studied by the doctor and the topic of the dissertation should be in line with the direction of the defense of the Council.
- 6.1.4. The doctoral student must have published at least two academic articles in the name of the university where they are studying as the first author in a peer-reviewed journal registered in the international database in the field of the subject of the doctoral thesis referred to in clause 1.5.2 of this rule, one of which has been published in the last six years.
- 6.1.6. If the doctoral student, belonging to the direction specified in clauses 1.5.2 and 1.5.3 of this rule, has published an article as the first author or contact person in a professional journal registered in the international scientific database (Web of Science) in the last six years (as per 6.1.4), the requirements specified in 6.1.5 do not apply.
- 6.2. When publishing the academic article specified in clauses 6.1.3-6.1.5 of this rule under the name of the university, the name of the academic institution that carried out the research may be added.
- 6.3. Clauses 6.1.3-6.1.5 of this rule do not apply to research work with conclusions related to state and official secrets.
- 6.4. The dissertation will be written and defended in Mongolian. A brief summary of the dissertation should be written in English within three pages and attached to the research paper. The doctoral thesis can be written and defended in English. In this case, the summary will be written in Mongolian.

Appendix-2. Regulation for graduate school learning and research activities (Execution and defense of the doctoral dissertation)





REGULATION FOR GRADUATE SCHOOL LEARNING AND RESEARCH ACTIVITIES

Date: 2023.06.07 Regulation number: A/202 MUST-Ulaanbaatar

On the Recent Approval of Regulations for Advanced Training and Research Activities

In accordance with Article 8 of the Law on Higher Education of Mongolia, Order No. A/370 of 2014 issued by the Minister of Education, Culture, and Science, titled "Common Procedures for Conducting Master's and Doctoral Courses," and Section 4.14.10, 10.2 of the Rules of the Institute of Higher Education, along with the corresponding provisions in the directive of the Director of the Institute of Education, and based on the decisions made during the council meeting on May 23, 2023, it is hereby ordered:

- 1. The approval of new procedures governing the advanced training and research activities of MUST requires the endorsement of a new appendix.
- 2. The Director of the Research and Technology Department (D. Tsolmonbaatar) and the Head of the Advanced Level Program (D. Oyuntsetseg) are assigned the responsibility of adhering to the approved procedures and overseeing their implementation.
- 3. With the issuance of this order, the documents "Procedures for the Migration of Master's Students" and "Regulations for the Migration of Doctoral Students" dated April 1, 2008, as well as the "Science and Technology Regulations" approved under the Rector's Order No. A/63 of 2011, titled "Procedures to be followed for conducting master's and doctoral courses at the university and defending degrees," are declared null and void.
- 4. This order shall come into effect from the commencement of the fall semester of the 2023-2024 school year.

President of MUST Tumurpurev NAMNAN

(The detailed procedure can be accessed in its original form on the official website of MUST. https://www.must.edu.mn/media/uploads/2023/06/26/0ahisan-surgalt-iuram20230607a202.pdf)

It is advisable to thoroughly review the following clauses and annexes of this regulation. It includes:

- 5.2. Research supervisor (Duties and responsibilities);
- 5.3. Research advisory (Duties and responsibilities);
- 6. Admission procedure;
- 7.8. Doctoral student criteria (Learning activities);
- 8. Dismissal, continuing education, exemption, exclusion, and transfer;
- 10. Execution and defense of the doctoral dissertation;
- Annex to regulations-1. Process mapping out the learning process for Master's and doctoral studies
- Annex to regulations-2. Form_CY-M007: Requirements for writing, publishing, and submitting doctoral dissertations; CY-M008: General structure of the doctoral dissertation (Appendix-3)

Five. Duties and responsibilities

5.2. Research supervisor:

- 5.2.1. The research supervisor for master's and doctoral work holds a doctoral degree, possesses a minimum of 3 years of experience in a relevant professional field, department, and research professor's team, and demonstrates expertise in teaching and research.
- 5.2.2. The research supervisor is limited to supervising a maximum of five new master's students and less than three new doctoral students per semester.
- 5.2.3. The research supervisor has the following responsibilities. It includes:
 - Provide guidance on study plans and assist in the selection of research topics aligned with the program.
 - Facilitate academic and research seminars, open up conditions and environment for discussion of research results among master's and doctoral students.
 - Offer advice, monitor the content, quality, and outcomes of master's and doctoral research, and provide conclusions and definitions based on assessment.
- 5.2.4. Graduate and doctoral students may be engaged as contractors for research projects and contract work conducted by constituent schools, branches, departments, and research professor teams.
- 5.2.5. The doctoral advisory commission will consist of three scientists, with the research supervisor serving as the head of the advisory commission.
- 5.2.6. In cases where the research work is proven to be interdisciplinary, a proposal to employ a second research supervisor will be submitted to GPO. The decision will be made by the advisory commission and a joint meeting of the professional field, confirmed by the dean's order.

5.3. Research consultant:

- 5.3.1. Considering the topic of the master's research work, a doctoral student proficient in the field, an employee of another university or academic institution, a researcher, or a scientist in the relevant field will be appointed as a research consultant.
- 5.3.2. Research master's and doctoral student advisors will provide support and guidance for the student's research work. They will also contribute to academic conferences and seminars, offering advice on publishing articles in professional journals.

SIX. ADMISSION PROCEDURE

- 6.3. Applicants for master's and doctoral programs must meet the following requirements. It includes:
 - Applicants for the master's program must hold a bachelor's degree, and applicants for the doctoral program must possess a master's degree.

- The registration of bachelor's and master's degree diplomas is conducted through the Higher Education Management Information System and the E-Mongolia electronic registration system.
- 6.4. The registrant should submit the admission application by attaching the necessary information to the Unified Admission Registration System of MUST.
- 6.5. GPO conducts unified entrance exams for master's and doctoral degrees. Registrants are required to take a foreign language proficiency test and undergo a professional interview. Exemptions from the foreign language test may apply if registrants provide valid scores from internationally recognized tests such as IELTS and TOEFL during their validity period.

SEVEN. LEARNING ACTIVITIES

7.8. Doctoral Student Criteria:

- 7.8.1. A doctoral student must maintain a minimum grade point average of 3.0 throughout the study period.
- 7.8.2. Develop and adhere to a detailed research work plan covering testing and research methodology, research process, result discussion, presentation, defense, and regularly maintain a "Doctoral Student's Personal Work Plan Book."
- 7.8.3. Earn credits for doctoral research work, including details of laboratories, objects, organizations involved in experiments, as well as courses taught and contributions to research projects.
- 7.8.4. Doctoral students who successfully complete the doctoral program, including passing the integrated professional examination, will be issued a certificate of completion and approved as a "candidate" by order of the university director.
- 7.8.5. Candidates must achieve the doctoral degree within 3 years after receiving the completion certificate. The certificate's validity can be extended once, up to 3 years, upon request of the candidate and the supervisor. Failure to complete the doctoral degree within this timeframe will render the candidate's certificate of completion invalid.
- 7.9. Based on proposals from branches and departments, the director of the constituent school may decide to allow the teaching of up to 4 credit courses (including seminars and laboratories) in one academic year. If a course is taught, the actual distribution of the teacher's credit performance during the specified time will be calculated following the provisions of Regulation 3.9.2, which outlines the procedure for evaluating the work performance of professors and teachers by credit. The credit performance, as calculated, will be deducted from the tuition fee.

EIGHT. DISMISSAL, CONTINUING LEARNING, EXEMPTION, EXCLUSION, AND TRANSFER

8.1. Absence/leave and expulsion

- 8.1.1. If a student is unable to continue studying for more than 3 weeks due to valid reasons, they must submit a written request for a semester or annual leave to the Faculty of Education within the fifth week of the semester.
- 8.1.2. A single leave period can extend up to 2 semesters, and the total cumulative leave granted during the student's study period should not exceed 2 years.
- 8.1.3. Cases of military service, maternity and child care leave, and instances of inability to study due to a doctor's advice are not considered in the total leave period.
- 8.1.4. After the fifth week of the school year, requests for leave or absence from school will not be accepted.

8.2. Continue to learning:

8.2.1. A student whose leave period has expired must submit a request to continue studying at the participating school to the ASO at least 14 days before the start of the course at that level.

8.3. Transfer to MUST:

8.3.1. Eligibility for Transfer: Students can transfer to the advanced level program of MUST from both foreign and domestic universities if they meet one of the following conditions:

- 8.3.1.1. The foreign university must be a recognized institution in its country, holding accreditation for higher education institutions and programs as per the laws of that country. In the absence of such a system.
- 8.3.1.2. Applicants must have successfully completed at least one term at the sending institution during their period of study.
- 8.3.1.3. Alternatively, the applicant can come from a domestic university accredited by the National Education Accreditation Council for the institution or program.
- 8.3.1.4. Applicants for transfer studies must be registered in the Higher Education Management Information System of the Ministry of Education and Culture.
- 8.3.2. Registration for transferring to the graduate level program of MUST takes place during the admission registration period specified in the unified academic calendar every semester.

8.6. Calculation of tuition fees:

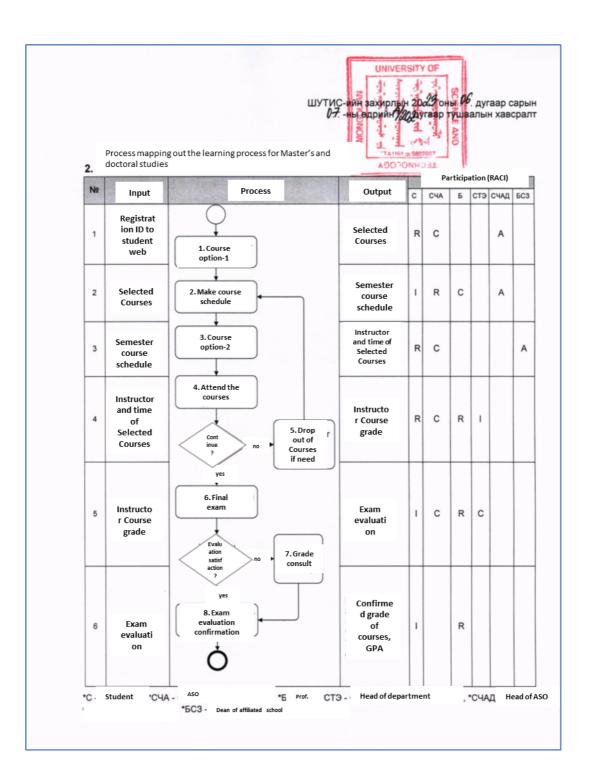
- 8.6.1. The appropriate payment for the student's study period is determined based on the unit cost of education, transfer of school, leave, and associated service fees.
- 8.6.2. The calculation of the tuition fee for a student who is exempted from school, taking a leave of absence, or transferring is conducted according to the following method. It includes: The appropriate fee for the student is calculated as the sum of two components: A (training unit cost) and B (service charge related to taking leave).
- 8.6.3. The unit cost of training is derived by dividing the total amount paid by the student for that term by the number of training weeks (16 weeks) outlined in the unified academic calendar. The unit cost of the student's training (Cost A) is then calculated by multiplying the training unit cost by the number of weeks of study.
- 8.6.4. The service fee (B) incurred when a student takes a leave of absence is calculated as equivalent to one credit evaluation of the tuition fee for the academic year.

TEN. EXECUTION AND DEFENSE OF THE DOCTORAL DISSERTATION



- 10.1. The doctoral student is required to finalize their training and research work plan through consultation with the advisory committee and subsequent approval by the research supervisor.
- 10.2. The plan should outline specific objectives for each semester, including the study of fundamental science and professional courses, the determination of the dissertation topic, active participation in research seminars, and the execution of experiments and research activities.
- 10.3. The doctoral dissertation must adhere to the following requirements:
- The doctoral dissertation must demonstrate the ability to address significant objectives, contributing to the creation of new knowledge in a specific scientific field. It should also address practical problems crucial to the societal and economic well-being of the country, all at an appropriate level supported by scientifically grounded theories and methodologies.
- The dissertation should include a comparative analysis, systematically evaluating the proposed new solution against existing scientifically proven solutions. It is essential to critically elucidate the innovative aspects that distinguish the proposed solution.
- The research results presented in the dissertation must be validated and conclusively derived from evidence. Sources used should not involve plagiarism or unauthorized reproduction of intellectual works, and they must adhere to copyright regulations. The content of the thesis should align with the sources used.

- 10.4. The dissertation must be composed in either Mongolian or English. Additionally, an abstract, spanning at least 5 pages, must be provided in both English and Mongolian, attached to the dissertation.
- 10.5. In alignment with the research area, the candidate is required to have published a minimum of 1 article in recognized international databases such as Web of Science and Scopus. Furthermore, a minimum of 3 articles should be published in MUST and other reputable professional scientific journals.
- 10.6. The dissertation should reference at least 20 sources from international professional journals registered in Web of Science and Scopus, all of which should be published within the last 10 years.
- 10.7. The general structure and content of the dissertation, both in terms of sequence and language composition, must adhere to the norms of the language of scientific research. It should fully satisfy the requirements of scholarly work.
- 10.8. The candidate is obliged to affirm and conclude the accuracy of the research results presented in the dissertation. Proper citation of sources used in the research is mandatory, and the candidate must adhere to ethical standards expected of a researcher.
- 10.9. The candidate's thesis undergoes scrutiny through a copy checking program prior to the convening of the doctoral thesis committee meeting.
- 10.10. The dissertation undergoes thorough discussion at the advisory commission meeting, followed by extensive deliberation at the extended session of the academic council within the branch and constituent school. Conclusions, recommendations, and decisions are formulated regarding the fulfillment of doctoral work requirements.
- 10.11. Ahead of the preliminary defense of the doctoral, materials prepared by the candidate undergo evaluation by GPO. Subsequently, an official letter from the university director, along with the candidate's thesis and accompanying materials, is dispatched to the relevant doctoral defense board.
- 10.12. Within 30 days following the dissertation defense, necessary corrections will be implemented, duly checked and endorsed by the members of the defense committee, and subsequently printed and bound.
- 10.13. Completed dissertations are required to be submitted to the National Library, Science and Technology Foundation Library, and the Science and Technology Central Library of MUST. Optionally, they may also be submitted to other public libraries.
- 10.14. GPO will receive the candidate's pertinent materials from the Doctoral Degree Council. Following this, a Ph.D. degree diploma will be issued to the candidate through an order from the university director.
- 10.15. The relevant materials associated with the Ph.D. will be archived in the university archive.



Appendix-3. Requirements for writing, publishing, and submitting doctoral dissertations

Form: CY-M007



The following requirements pertain to the composition of a doctoral dissertation:

- The content of the doctoral dissertation subject will be developed at the appropriate level of scientific theory and methodology, and it will be printed on one side of A4 (210x297mm) paper.
- The dissertation work is written in the Unicode system with a font size of 12 points, Arial font, 1.2 spacing between lines, 3.0 cm margin from the left side, 2.0 cm margin from the right side, 2.5 cm margin from the top, and 2.5 cm margin from the bottom of the paper.

The name of the dissertation workgroup should be centered on the line, with a font size of 11 points, in capital letters, bold, and with a line spacing of 1.0 (single line spacing).

- The name of the subgroup should be in line, with a font size of 12 points, bold, and with a line spacing of 1.0 (single line spacing).
- The thesis must be a minimum of 100 pages. Page numbers should be centered at the bottom of each page.
- Pages containing titles, lists of abbreviations, and lists of figures and tables should be numbered with Roman numerals.
- Pages featuring the main text of the thesis and the list of used materials should be numbered with Arabic numerals.
- Each figure and table included in the work must have a unified sequential number along with a descriptive title. The table number should be placed in the upper right corner (Arial font, 11 pt), while the title is centered at the top (Arial font, 11 pt, Bold, and italic format). For figures, the number and caption should appear at the bottom (Arial font, 11 pt, **Bold**, *italic* format) in the format "Table 1.1. Title" or "Figure 1.1. Caption."
- Information in tables and figures should be presented in Arial font with a font height of 10-11 pt.
- Formulas in the work should use symbols adhering to international standards. Each letter within a formula is explicitly marked and explained at the formula's bottom. Use the term "Here" without a period to introduce the description. Begin each letter's explanation on a new line, and include the number in parentheses after the formula. Leave one line of space at the top and bottom of the formula.
- Cite research data and sources from primary works. If the primary work is unavailable, start the citation with the secondary work and subsequently with the cited work of...
- Adhere to the dissertation writing requirements. When referencing research data and sources, include the number and page side by side in the list of materials used, positioned on the lower-left side of the page.

The list of materials used (following the APA style outlined in the Publication Manual of the American Psychological Association) should be written in Arial font, regular format, with a font height of 12 pt.

Form: CY-M008 General structure of the doctoral dissertation



- Out cover
- Inside front cover
- Content
- Introduction
- Theory and Methodology
- Research and Analysis
- Project
- General Conclusion
- Reference
- List of Tables
- List of Figures
- List of Abbreviations (if necessary)
- Appendix (if applicable)
- Brief Presentation of the Dissertation (Annotation)

The following requirements shall be met when handing over the doctoral thesis work. It includes:

Compose the dissertation in accordance with the stipulated guidelines for doctoral dissertation writing. Address and incorporate corrections for each comment and criticism put forth during the initial defense. Confirm that all specified requirements have been met. Append a confirmation page immediately following the front page of the dissertation. This confirmation page should bear the signatures of both the advisory committee and reviewers, signifying their approval and endorsement.

Dissertation topic:				
Chairman:	Academic	Degree,	Title,	Surname,
Name				
Deputy head:	Academic	Degree,	Title,	Surname,
Name				
Secretary:	Academic	Degree,	Title,	Surname,
Name				
Member:	Academic	Degree,	Title,	Surname,
Name				
Head of the advisory commission:	Academic	Degree,	Title,	Surname,
Name				
Advisory commission members:	Academic	Degree,	Title,	Surname,
Name				
Reviewer:	Academic	Degree,	Title,	Surname,
Name				

Appendix-4 Research environment of GSB

Library (Access to international research databases)

Doctoral students from the GSB at MUST have the privilege to read books and academic materials electronically through the school's library using their assigned student codes. To obtain access, please reach out to the librarian at GSB with your student code. For electronic access, contact the librarian via email at zaluuhaianu@gmail.com. Upon approval, you can visit www.must.lib-4u.net to access the required books and materials.

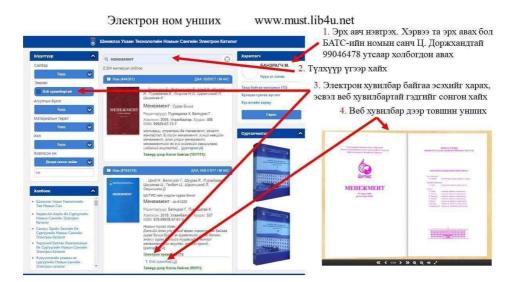


Figure 3. A brief guide to reading e-books and academic articles

GSB academic journals and academic conferences

Doctoral students are expected to engage in comprehensive research activities, including publishing the outcomes of their research endeavors in professional journals and presenting them at academic conferences. These platforms serve as valuable opportunities for doctoral students to share their research findings, contribute to their respective fields, and engage in scholarly discussions.

- The academic conference for master's and doctoral students at MUST is declared simultaneously every March across all constituent schools of the university. The conference encompasses three fields: technical sciences, natural sciences, and social and humanities. GSB will oversee the initial stage selection process for the social and humanities category within its student body. In April, a final selection will take place, featuring presentations chosen by participating schools. The selected works will then be published in the proceedings of the academic conference for master's and doctoral students at GSB. The reports must adhere to basic criteria, including clearly defined research goals and problems, a distinct reflection of innovative aspects and scientific results, and the absence of any violations related to intellectual property. Announcements for the conference will be posted on the school's website and Facebook page upon release, so it is advisable to check for details regularly.
- **The international ICIED academic conference** is part of Mongolia's annual Innovation Week held in May. This conference provides a platform for leading scientists and researchers to share knowledge, experiences, and research findings on broad innovation and entrepreneurship topics. It encourages interdisciplinary

discussions, seeks collaboration opportunities, and explores the latest research trends. Conducted in English, the conference proceedings will be published as a special issue in the GSB academic journal "Management and Innovation." Announcements will be made in early March through the GSB information channels, providing specific details.

- The Batkhurel Gombodori Academic Conference for Doctor of Economic Sciences (Sc.D.), Professor, and Honored Economist of Mongolia is an annual event held every October. The conference aims to enhance the research endeavors of doctoral students, young scientists, and teachers, fostering the development of their knowledge and skills. The "Management and Innovation" magazine will publish a compilation of selected papers from the conference. In September, detailed announcements, including topics and directions, will be disseminated through the GSB website and Facebook page. Stay tuned to these platforms for specific information.
- **The "Management and Innovation" journal** is a professional quarterly publication subject to review by MUST and GSB. It welcomes academic, essay, analysis, and textbook reviews focused on the development and trends within economics, finance, society, management, business and public administration, entrepreneurship, innovation, production, and marketing theory and practice. Authors can submit their articles to the responsible secretary, and the reviewed pieces will be published within the corresponding season.

The doctoral student is encouraged to proactively disseminate research findings across various professional domains, presenting them at academic conferences and submitting them to esteemed domestic and international peer-reviewed journals.

Other sources of academic research

The following academic resources are available on the internet.

- Web of science
- Scopus
- Dimension
- MDPI
- Google scholars
- Research aate
- others

An independent research laboratory at GSB

To bolster the research endeavors of its doctoral students and foster collaborative opportunities for their research initiatives, the GSB of MUST actively facilitates the operations of the "Tana" Design Thinking Laboratory. The following provides an in-depth overview of the Tana Laboratory's activities.

The Tana Design Thinking Laboratory serves as an open platform dedicated to the execution of research, testing, and innovation initiatives aligned with the GSB's "Connection of Agricultural Resources" concept. It welcomes researchers with an interest in exploring this domain and actively engages in both international and national projects.



In October 2017, the "Tana" Laboratory for the advancement of design thinking and business models was inaugurated at the GSB. The term "Tana" embodies a name that signifies the intellectual prowess of innovation at both the national and regional levels.

The objective is to establish connections among agricultural resources in Mongolia, elevate technological proficiency, enhance mechanization, automation, and robotization, and subsequently amplify the cooperative processes. This involves fostering collaborative

participation through contract management and digitalization. The overarching aim is to implement research and project programs focused on enhancing efficiency. To attain this goal, we actively involve both international and domestic talents, supporting student researchers in cultivating their entrepreneurial spirit through research and experimental endeavors that contribute to the country's development.

Since its inception, the laboratory has forged close collaborations with prominent agricultural universities, cooperatives, and associations in Japan, Korea, China, and Russia. It has initiated projects aimed at bolstering the development programs of Tuv, Darkhan, Sukhbaatar, and Omnogovi provinces. In 2018, the laboratory actively engaged in the SME Business support forum held in Omnogovi province in partnership with the Agricultural University. During the event, it delivered training sessions and offered guidance to entrepreneurial organizations and citizens, contributing to the regional business development landscape.

Pioneering the concept of connecting agricultural resources, the laboratory collaborates with Kunsan National University of South Korea and the Association of Importers of Agricultural Equipment. Notable projects include the "Mechanization of garlic and onion cultivation" and the innovation of sheep washing equipment. In partnership with JICA, Tokachi association of importers Agricultural equipment, Obihiro province of Hokkaido-Japan, and the Association of Technical Exporters, the laboratory is actively implementing projects such as the "Introduction of contractual management in mechanization of Mongolian livestock fodder cultivation" and initiatives related to Mongolian saddle development under the Grassroots Program.

Starting from the academic year 2021-2022, we are actively working towards establishing a business platform named "Tana" to bolster support for agricultural businesses. Annually, the Tana Laboratory conducts a comprehensive review of its internal and external collaborations, projects, and experiments, addressing the question, "What went wrong?" This assessment culminates in the MATI (Mongolian Agri-Tech Innovation) business forum, scheduled for November after the autumn work period. The forum, beyond academic meetings, incorporates business forums, serving as a significant event that facilitates the coordination of activities among domestic and international business organizations, universities, and research institutes. To endorse this conference, the successful organization of the MATI-1 conference took place in 2019, in collaboration with the Ministry of Education and Science and the Higher Education Reform Project of the Asian Development Bank.

Checklist for Publishing a Scientific Paper

(Source: Alam, Imtiaz Ibne (2020), Checklist for Publishing a Scientific Paper, DOI:10.13140/RG.2.2.19305.31842/1

1. Making the Basics Right Originality

Does the paper offer original contribution to the scientific community?

Does the paper include any copyrighted material?²

Can the paper be subjected to self-plagiarism?³

Is the paper relevant to the scope of the targeted journal? 4

Literature Review

Does the paper define the existing knowledge gap?5

Is the research question in line with the literature gap?6

Is the research design appropriate to answer the research question?7

Are the citations targeted to a specific research community?8

Did it construct a cogent argument synthesizing all the information from relevant papers?9

2. Building Blocks

Title

Is the title too long?¹⁰

Is the title simple, clear and to the point?

Is the title attractive and powerful?¹²

Does the title accurately describe all the key concepts of the paper?¹³

Abstract

Is the Abstract concise, factual and to the point?¹⁴

Does the *Abstract* synthesize the main points of the paper?¹⁵

Are there brief statements on the purpose and scope of the research?¹⁶

Does the *Abstract* concisely summarize the principal results and major conclusions?¹⁷

Is there any references in the Abstract? 18

Is there any uncommon abbreviations and acronyms?¹⁹

Introduction

Does the *Introduction* provide a clear, complete and structured description of the background?²⁰

Is there a logical flow on the subject to be covered and its importance and relevance \mathbb{R}^{2^1}

Are there citations from high quality, credible and relevant academic sources?²²

Does the *Introduction* give a clear description of the study's rationale?²³

Does the *Introduction* establish the significance of the current work?²⁴

Is there any list of points or bullets?²⁵

Are the scope and objectives clearly stated?²⁶

Methodology

Does the *Methodology* section provide a full and clear description of thechosen study design?²⁷

Is there clear and well-structured description of data collection methods?²⁸

Does the *Methodology* section contain detail on all necessary elements?²⁹

Is there a clear and structured outline of the proposed methods of data processing and analysis?³⁰

Are the measures used in this study valid and reliable?³¹

Is the work reproducible by an independent researcher?³²

Are the figures and tables clearly visible and concise?³³

Results

Are the results credible and supported by valid and intelligible statistics?³⁴

Are the presented data in line with the research question raised in the *Introduction*?³⁵

Are the presented data clearly and concisely stated?³⁶

Does the *Results* section combine text, tables and figures to present data and highlight major findings?³⁷

Do the figures and the tables clearly contribute to the presented data?³⁸

Discussion

Did the discussion clearly state principal findings?³⁹

Does the discussion address the research question?⁴⁰

Does it provide a comprehensive and well-supported criticism of the impact and relevance of the study findings?⁴¹

Does it critically discuss and evaluate the study's conclusions?⁴²

Did the discussion describe the implications of the work for future research?⁴³

Does it clearly state the limitations of the study?⁴⁴

Is there appropriate reference to the relevant literature?⁴⁵

Conclusion

Does the *Conclusion* summarize the paper's main arguments and conclusions?⁴⁶

Does it give a final judgment on the significance of the study findings?⁴⁷

Does it include future prospects?48

3. Before Submission: Final Considerations Bibliography

Are the references correctly formatted using the style mentioned by the journal?⁴⁹

Are all the references cited in the text present in the reference list (and vice versa)?⁵⁰

Tables and Figures

Did the figures include relevant captions?⁵¹

Is there any missing legend?⁵²

Did all the tables include titles, description, footnotes?⁵³

Readability

Is the paper spell checked' and 'grammar checked'?54

Is the writing style concise, fluent and easy to read and follow?⁵⁵

Is there any risk of accidental plagiarism from other sources?⁵⁶

Author Names and Affiliations

Does the paper clearly indicate the given name(s) and family name(s) of each author?⁵⁷

Did the paper present the authors' affiliation addresses (where the actual work was done)?⁵⁸

Keywords

Are the keywords adequate?⁵⁹

- ¹ Research journals primarily prefer original contributions from the authors, which are not published elsewhere before.
- ² Permission should be obtained before using any copyrighted material from other sources.
- ³ Self-plagiarism should be avoided.
- ⁴ It is critical to consider your paper's relevancy with the scope of the targeted journal.
- ⁵ It is essential to properly define the real gap in the literature.
- ⁶ The research question should be in line with the literature gap.
- ⁷ The research design should appropriately answer the research question.
- ⁸ It's not a good practice to intentionally omit any key reference. This should be avoided!
- ⁹ The literature review should be able to synthesize all the information to construct a cogentargument.
- ¹⁰ The title should be neither too short nor too long. It needs to be concise and informative.
- 11 It needs to be simple, clear and to the point.
- ¹² Title should be attractive and powerful.
- ¹³ The title should accurately describe all the key concepts of the paper.
- ¹⁴ The abstract should be concise, factual and to the point.
- ¹⁵ The Abstract should synthesize the main points of the paper.
- ¹⁶ There should be brief statements on the purpose and scope of the research.
- ¹⁷ The abstract should state briefly the principal results and major conclusions.
- ¹⁸ References should be avoided in the Abstract.
- ¹⁹ Avoid uncommon abbreviations and acronyms.
- ²⁰ There should be clear, complete and structured description on the subject background.
- ²¹ Introduction should include logical explanation of the key areas to be covered, and their importanceand relevance.
- 22 Introduction should demonstrate ability to identify and cite high quality, credible and relevant academic sources.
- 23 The description should cover what is significant, highly relevant, and helpful to the research question.
- 24 It should establish why the research is worth doing?
- ²⁵ Avoid points or bullets.
- ²⁶ The scope and objectives should be clearly stated.
- ²⁷ There should be a full and clear description of the chosen study design.

- ²⁸ If the study involves data collection, then there should be clear and wellstructured description ofit.
- ²⁹ All necessary elements should be covered.
- ³⁰ There should be a clear and structured outline of the proposed methods of data processing and analysis.
- 31 They need to be valid and reliable.
- ³² It needs to be reproducible.
- ³³ They need to be clearly visible and concise.
- ³⁴ The results should be credible and supported by valid and intelligible statistics.
- ³⁵ The presented data should be in line with the research question.
- ³⁶ They should be clear and concise.
- ³⁷ The Results should combine the use of text, tables and figures to condense data and highlighttrends.
- ³⁸ Tables and figures should contribute to the paper by enriching reader understanding whileminimizing text.
- ³⁹ Principal findings should be clearly stated at the beginning.
- ⁴⁰ The discussion should be based on it.
- ⁴¹ The discussion section should critically analyse compare and discuss the results found in theinvestigation.
- ⁴² It should critically discuss and evaluate the study's conclusions.
- ⁴³ There should be implications for future research or policy making.
- 44 If any, it should be clearly stated.
- ⁴⁵ Appropriate reference should be given to the relevant literature
- ⁴⁶ Conclusion should very briefly revisit the most important findings of the study.
- ⁴⁷ Conclusion should provide a final judgment on the importance and significance of the findings withrespect to implications and impact.
- ⁴⁸ Future prospects should be provided.
- ⁴⁹ The references should be correctly formatted using the style requirement of the targeted journal.
- ⁵⁰ Make sure every reference cited in the text is also present in the reference list (and vice versa).
- ⁵¹ Check whether it is required by the target journal.
- ⁵² There should be no missing legend.
- ⁵³ The tables should include titles and description, and if necessary, footnotes.
- ⁵⁴ Manuscript should be 'spell checked' and 'grammar checked' before submission.
- ⁵⁵ The writing style needs to be concise, fluent and easy to read and follow.
- ⁵⁶ Plagiarism should be checked through Turnitin before submission. In total, similarity with othersources should be less than 5%; individually, less than 1%.
- ⁵⁷ Most journals require clearly written the given name(s) and family name(s) of each author and thatall names are accurately spelled.
- 58 Present the authors' affiliation addresses (where the actual work was done) below the names.
- ⁵⁹ Avoid too many keywords.