

A Characteristic of Architecture Correspondence Education at Waseda University
in Early Shōwa Period

—Analyses of the Waseda Architectural Lecture Notes—

講義録からみる昭和初期における早稲田大学建築通信教育の特質

—『早稲田建築講義録』の分析を通して—

February, 2022

Hanyang WANG
王 漢陽

A Characteristic of Architecture Correspondence Education at Waseda University
in Early Shōwa Period

—Analyses of the Waseda Architectural Lecture Notes—

講義録からみる昭和初期における早稲田大学建築通信教育の特質

—『早稲田建築講義録』の分析を通して—

February, 2022

Waseda University Graduate School of Creative Science and Engineering

Department of Architecture, Research on Comparative Architectural History

Hanyang WANG

王 漢陽

ACKNOWLEDGMENT

The thesis is based on my research work from April 2017 to January 2022 at KOIWA Laboratory, Department of Architecture, Waseda University. The completion of the thesis is attributed to many people's support and encouragements.

First and foremost, I want to express my heartfelt appreciation to my supervisor, Professor Masaki KOIWA, whose patient guidance, valuable suggestions, and constant encouragement ensured me successful completion of this thesis. His conscientious academic spirit and modest, open-minded personality inspired me in both my academic study and daily life. Working under Professor Masaki KOIWA's supervision has been a privilege. Being his student and being guided and directed by his passion and wealth of knowledge has been my honour. He has been guiding me in a gradual way to understand what an actual PhD thesis is and has opened up new ways of thinking about life for me. He has been critical in my academic attitude and my personality development. These past years I spent interacting with him will give me the most valuable guidance on my future research path.

I would like to thank to my second supervisor, Professor Takeshi NAKAGAWA, for his contributions to the achievement of my project, his involvement from the start of my research, his encouragement, patience, and kindness at every stage of this dissertation and daily interactions. My experience working with him in Cambodia also showed me his passion for research, which greatly encouraged me.

I am incredibly grateful to express my sincere gratitude to my examiners, Professor Yuji HASEMI. Despite his hectic schedule, he participated in my defense committee and offered his guidance and valuable rewriting advice. I owe him a debt of gratitude for his advice and patient guidance. I was impressed by the way he approached each detailed question.

From the design and revision of the thesis to the finalization process, the professor's efforts have been poured into the process from the beginning to the end. With their rigorous academic approach, generosity and kindness, and optimistic attitude towards life, they have set a lifelong example for me. Their teachings and encouragement will inspire me to exercise rigor and passion in my research path.

I wish to thank all classmates, present and past, for their warm help, discussions, and encouragements at Waseda University. Many thanks to Jeongmin LEE, who has been kindly guiding me through my research since I joined KOIWA Laboratory, often using examples of vivid metaphors to help me understand how to write a logical thesis. He would always cheer me up when I was discouraged and wanted to give up, and even after he graduated and returned to Korea, he would often give me advice via email.

Also, many thanks to Chihiro KUROIWA; she would often take an interest in my research and provide functional reference materials to me, and she was always quick to get back to me whenever I needed help. Changchen WAN, Keisuke TAKADA as well as members of KOIWA Laboratory -- it was my great pleasure to study with them.

Last but not least, my heartfelt thanks to my parents, Guangzhai WANG and Xiaoxuan WANG, who has always silently encouraged and supported me and provided me with the opportunity to receive a good education. I would not have finished my dissertation if it hadn't been for my parents love and unwavering support.

January 2022 Hanyang WANG
Major in Architecture, Comparative Architectural History, KOIWA Laboratory
Graduate School of Science and Engineering, Waseda University

Abstract

The dawn of modern architecture education in Japan came as the Meiji Administration established public universities and technical training schools. During the end of the Taishō Period (1912- 1926) to the Shōwa Period (1926-1989), with rapid social modernization, construction technologies also needed to be modernized. On the other hand, it still remains a problem to investigate the educational policy of modern architectural education and the level of architectural human resources in Japan from the end of the Taishō Period to the beginning the of Shōwa Period.

In the private education sector, Waseda University, the pioneer in individualized architecture education, introduced and implemented a particular education system called correspondence education (a form of distance learning) in the early Shōwa Period to serve society's demand for a wide range of architectural professionals and technicians. The *Waseda Architectural Lecture Notes*, used as course materials for correspondence education, play a vital role in understanding Japanese architectural education's founding period. After clarifying the bibliography of the *Waseda Architectural Lecture Notes*, this paper focuses on publication time frames, educational background of the lecturers, symmetrical arrangements of the various subjects, and the design and characteristics of lecture syllabi of the *Waseda Architectural Lecture Notes*.

The purpose of this study is to reveal the context of architectural correspondence education at Waseda University in the early Shōwa Period and to evaluate the historical role and position of Waseda University as a whole in architectural education in the early Shōwa period. The central chapter of the paper is composed of three chapters.

Chapter 3, "The Subject Composition of the *Waseda Architectural Lecture Notes*", collects four series of lecture notes published by Waseda University Press in Shōwa 4th (1929), Shōwa 7th (1932), Shōwa 15th (1940) and Shōwa 17th (1942), and analyzes the publication time and specific contents. In Chapter 4, "Discussion and Comparison of the Contents of the *Waseda Architectural Lecture Notes*", the particular changes in the contents and the reasons for them are discussed in terms of the educational background of the lecturers who wrote them, the ratio of the subject composition of the lecture records. External influences, and then a comparison is made between the *Waseda Architectural Lecture Notes*, the internal education of the Department of Architecture at Waseda University, and the external industrial education. The author compares the educational level of the *Waseda Architectural Lecture Notes* with the internal education

of the Department of Architecture at Waseda University and the external industrial education, also discusses the academic level and practicality philosophy of the *Waseda Architectural Lecture Notes*. In Chapter 5, “Influence and position of *Waseda Architectural Lecture Notes*”, after examining the development history of industrial education and architecture books, the position of *Waseda Architectural Lecture Notes* in industrial education will be discussed. It will be pointed out that *Waseda Architectural Lecture Notes*, which was used in the correspondence education of Waseda University, is a textbook that meets the standard of practical education standard textbook and its importance.

This analysis reveals that the *Waseda Architectural Lecture Notes* had specifically emphasized on systematic architectonics courses. Therefore, Waseda University made significant contributions to architectural professionals in terms of technology and theory, as well as flexibly responding to national reserve through the distance learning approach tailored to the historical context of the Shōwa Period.

Contents

ACKNOWLEDGMENT	<i>i</i>
Abstract	<i>iii</i>
Contents	<i>v</i>
Table Lists	ix
Figure Lists	xiii
Chapter 1	1
Introduction	1
1.1 Background of the Study	2
1.2 Research Aims and Objectives	6
1.2.1 A study of the architectural correspondence education (<i>Waseda Architectural Lecture Notes</i>) substance at Waseda University	6
1.2.2 History of the development of correspondence architecture education at Waseda University	7
1.3 Literature Review	8
1.4 Research Methodology	20
1.5 Structure of this Thesis	22
References	25
Chapter 2	
A Brief History of Modern Architectural Education in Japan	27
2.1 Architectural Education in Response to the Development of Civilization and Industrialized Society in the Meiji Period	28
2.2 The Beginnings of Modern Architectural Education in Japan	35
2.2.1 The establishment of the University of Tokyo	35
2.2.2 The Architectural education in different periods at the University of Tokyo	37
2.2.3 Differences between architectural education at the University of Tokyo and previous architectural education.....	39
2.3 The System of Japanese Architectural Education in the early Shōwa Period	40
2.3.1 Tokyo Industrial School (now Tokyo Institute of Technology).....	42
2.3.2 Tokyo School of Arts (now Tokyo University of the Arts)	43
2.3.3 Yokohama Higher Technical School (now Yokohama National University)	45
2.3.4 Fukui Higher Technical School (now University of Fukui)	46
2.3.5 Kobe Higher Technical School (now Kobe University).....	47
2.3.6 Tokyo High School of Arts and Design (now Chiba University).....	47
2.3.7 Nagoya Higher Technical School (now Nagoya Institute of Technology).....	48
2.3.8 Kyoto Imperial University (now Kyoto University)	49
2.3.9 Kyoto Higher Technical School (now Kyoto Institute of Technology).....	51
2.3.10 Kogakuin (now Kogakuin University)	52
2.3.11 Nihon University	54
2.4 The Philosophy of Architectural Education at Waseda University	57

2.4.1 Architecture-related institutions at Waseda University	57
2.4.2 The founding and position of the Faculty of Science and Technology at Waseda University	60
2.4.3 The Department of Architecture at Waseda University in the emergence era.....	63
2.4.4 Waseda University Vocational Engineering Department, Waseda Technical School, Waseda Higher Technical School and Waseda Architecture Correspondence Education	72
2.5 Conclusion.....	79
References	81

Chapter 3

About the <i>Waseda Architectural Lecture Notes</i>.....	83
3.1 The History of Waseda Correspondence Education.....	84
3.1.1 The beginning of the Correspondence Lecture Notes	85
3.1.2 Intangible School: the development of the Correspondence Lecture Notes	86
3.1.3 Diverse <i>off-campus</i> students and the reality of self-education.....	90
3.1.4 End of the era of the Correspondence Lecture Notes.....	91
3.2 Publication and Distribution of the <i>Waseda Architectural Lecture Notes</i>	93
3.3 Collection and Storage	110
3.4 Review of the Content and its Development.....	119
3.5 Conclusion.....	159
References	160

Chapter 4

A Review and Comparison of the Contents about

the <i>Waseda Architectural Lecture Notes</i>	161
4.1 A Review of the Contents.....	162
4.2 Examination of the Reasons for Content Changes.....	166
4.2.1 Educational background of teachers editing the Notes	166
4.2.2 Subject allocation of the Notes.....	169
4.2.3 Specific content analysis	169
4.3 The Comparison of the Content with the Internal Architectural Education at Waseda University	171
4.3.1 Internal comparison: the Waseda Technical School at Waseda University	171
4.3.2 Internal comparison: the Department of Architecture at Waseda University	174
4.4 Conclusion.....	187
References	189

Chapter 5

The Influence and the Position of

the Waseda Architecture Correspondence Education.....	191
in Society.....	191
5.1 The Industrial School System in the Early Shōwa Period.....	192
5.2 Proposal for A Standard Textbook for Industrial School Levels.....	201
5.3 Changes in Architectural Books and Lecture Notes from the Meiji Period to the Shōwa Period	

.....	227
5.3.1 Architecture-related textbooks - Meiji Period	227
5.3.2 <i>Waseda Architectural Lecture Notes</i> and other Architectural Lecture Notes in Taishō-Shōwa Period.....	234
5.4 External Comparison: Architectural Book Written and Distributed by the Same Lecturer at Waseda University.....	250
5.5 The Influence of the <i>Waseda Architectural Lecture Notes</i> in SPociety.....	279
5.5.1 Edicts and qualifications related with architecture.....	279
5.5.2 Survey on the destinations of graduates	282
5.5.3 The dissemination of the <i>Waseda Architectural Lecture Notes</i>	283
5.5.4The end of the publication of the <i>Waseda Architectural Lecture Notes</i>	287
5.5 Conclusion.....	289
References	291
Chapter 6	293
Conclusion	293
References.....	299
List of Research Achievements	307

Table Lists

Table 1.1	Six phases of Japanese Architectural History by Teijirō MURAMATSU.....	10
Table 1.2	Lecture notes published during Taishō Period and early Shōwa Period.	15
Table 2.1	History of the state and private universities regarding the Department of Architecture.	40
Table 2.2	Name change of Tokyo Institute of Technology.	42
Table 2.3	Architecture lectures at Kyoto University during the founding period.	50
Table 2.4	Nihon University architecture-related institutions.....	54
Table 2.5	The architecture-related institutions at Waseda University.....	58
Table 2.6	History of Waseda University and Professional Technical Education.....	60
Table 2.7	Department organization and professors at the time.	67
Table 2.8	The Department of Architecture’s Syllabus from 1910 (Meiji 43 rd).....	68
Table 2.9	The Department of Architecture’s Syllabus from 1911 (Meiji 44 th).....	68
Table 2.10	The Department of Architecture’s Syllabus from 1912 (Taishō 1 st)-1920 (Taishō 9 th).	70
Table 2.11	The composition of the architectural discipline in Shōwa 18 th of Waseda University Vocational Engineering Department.....	73
Table 2.12	The composition of the architectural discipline from Meiji 44 th to Taishō 1 st of Waseda Technical School.....	75
Table 2.13	The Architecture-Related Subjects at Waseda Higher Technical School in Shōwa 7 th	77
Table 2.14	A Comparison of Waseda University and Nihon University architecture-related institutions.....	78
Table 3.1	The chronology of the lecture notes of the various faculties at Waseda University	88
Table 3.2	Publication and distribution of the <i>Waseda Architectural Lecture Notes</i> (English/ Japanese).	94
Table 3.3	Publication and distribution of the <i>Waseda Architectural Lecture Notes</i> (English).....	102
Table 3.4	<i>Waseda University Architecture Lecture Notes</i> of 7 th – 25 th	107
Table 3.5	Lecture notes published during Taishō Period and early Shōwa Period.	110
Table 3.6	<i>The Waseda Architectural Lecture Notes</i> publication.	111
Table 3.7	Specific subject table of 63 collected volumes.....	113
Table 3.8	Specific contents of the <i>Suzuki collection</i>	121
Table 3.9	Specific contents of the <i>no-cover collection</i>	129
Table 3.10	Specific contents of the Shōwa 15 th edition.....	135
Table 3.11	Specific contents of the Shōwa 17 th edition.....	143
Table 4.1	The changes in the subject allocation and course contents among the four editions.....	162
Table 4.2	Educational background of the teachers in Shōwa 17 th edition.....	166
Table 4.3	The curriculum of the Waseda Technical School in 1929 and 1942.	171
Table 4.4	The configuration of disciplines of the Department of Architecture at Waseda University from 1929 to 1944.....	174
Table 4.5	Comparison about subjects in 1929.....	177
Table 4.6	Comparison about subjects in 1942 (Shōwa 17 th).	180
Table 4.7	The specific contents of the Department of Architecture at Waseda University are based on the notes of Prof. ŌTA.....	185

Table 4.8	The specific contents of the <i>Waseda Architectural Lecture Notes</i>	185
Table 5.1	Types of architecture schools and statistics of graduates between Shōwa 12 th and S Shōwa 16 th	197
Table 5.2	Guidance on the classification of standard textbooks for industrial schools published by the Architectural Institute of Japan (Ministry of Education, Science and Culture).	202
Table 5.3	Professors (Editors) of <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	203
Table 5.4	A comparison of subjects about the <i>Waseda Architectural Lecture Notes</i> and the <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	204
Table 5.5	A Comparison of Material and Construction for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	205
Table 5.6	A Specific Catalogue Comparison of <i>Structural Dynamics</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	205
Table 5.7	A Specific Catalogue Comparison of <i>Construction Materials</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	210
Table 5.8	A Specific Catalogue Comparison of <i>General Architecture Structural Methods</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	215
Table 5.9	A Comparison of <i>Architectural Equipment</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	216
Table 5.10	A Specific Catalogue Comparison of <i>Architectural Equipment</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	217
Table 5.11	A Specific Catalogue Comparison of <i>Implementation Plan</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	220
Table 5.12	A Specific Catalogue Comparison of <i>Overview and History</i> and <i>Architectural styles</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	222
Table 5.13	A Specific Catalogue Comparison of <i>Architecture Plan</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	224
Table 5.14	The summary of architectural books in the Meiji Period.	228
Table 5.15	Specific contents of the ARUSU Architecture Lecture.	235
Table 5.16	Specific classifications of the <i>Higher Architecture</i>	240
Table 5.17	Specific classifications of the <i>Waseda Architectural Lecture Notes</i>	245
Table 5.18	The temporal survey of the publications of standard textbooks in the Shōwa Period.	251
Table 5.19	Equipment section-1 comparison between the <i>Waseda Architectural Lecture Notes</i> and Commercial Machinery and apparatus equipment.	253

Table 4.8	The specific contents of the <i>Waseda Architectural Lecture Notes</i>	185
Table 5.1	Types of architecture schools and statistics of graduates between Shōwa 12 th and S Shōwa 16 th	197
Table 5.2	Guidance on the classification of standard textbooks for industrial schools published by the Architectural Institute of Japan (Ministry of Education, Science and Culture).	202
Table 5.3	Professors (Editors) of <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	203
Table 5.4	A comparison of subjects about the <i>Waseda Architectural Lecture Notes</i> and the <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	204
Table 5.5	A Comparison of Material and Construction for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	205
Table 5.6	A Specific Catalogue Comparison of <i>Structural Dynamics</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	205
Table 5.7	A Specific Catalogue Comparison of <i>Construction Materials</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	210
Table 5.8	A Specific Catalogue Comparison of <i>General Architecture Structural Methods</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	215
Table 5.9	A Comparison of <i>Architectural Equipment</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	216
Table 5.10	A Specific Catalogue Comparison of <i>Architectural Equipment</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	217
Table 5.11	A Specific Catalogue Comparison of <i>Implementation Plan</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	220
Table 5.12	A Specific Catalogue Comparison of <i>Overview and History</i> and <i>Architectural styles</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	222
Table 5.13	A Specific Catalogue Comparison of <i>Architecture Plan</i> for <i>Waseda Architectural Lecture Notes</i> and <i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	224
Table 5.14	The summary of architectural books in the Meiji Period.	228
Table 5.15	Specific contents of the ARUSU Architecture Lecture.	235
Table 5.16	Specific classifications of the <i>Higher Architecture</i>	240
Table 5.17	Specific classifications of the <i>Waseda Architectural Lecture Notes</i>	245
Table 5.18	The temporal survey of the publications of standard textbooks in the Shōwa Period.	251
Table 5.19	Equipment section-1 comparison between the <i>Waseda Architectural Lecture Notes</i> and Commercial Machinery and apparatus equipment.	253

Figure Lists

Figure 1.1	Institutional of architecture education in Waseda University.	4
Figure 1.2	Thesis structure diagram.....	24
Figure 2.1	A diagram of the reformation in the school system under “Industrial Schools Edict”, “Vocational Schools Edict”, “University Edict” and “School Education Act”.....	31
Figure 2.2	A Diagram of Waseda University Architecture-Related institutions.	59
Figure 2.3	A commemorative photo of the 70 th -anniversary party.....	61
Figure 2.4	Portrait photos of Kingo TATSUNO and Kōichi SATŌ (From Wikipedia).	63
Figure 2.5	Commemorative photo on the day of the annual meeting. (Taken by Yasutada WATANABE) (Front row from left: OGAWA, IMAHASHI, NISHINO, TOKUNAGA, NAITŌ, WATANABE, SOSHIRODA, KIMOTO. Back row from left: OYA, WADA, KODERA, IMAGAWA, IWANO, KAWAI, KASAHARA, SUZUKI).....	65
Figure 3.1	The Chronology of Occurrences about the Correspondence Lecture Notes in per-war Japan.	84
Figure 3.2	The Spring Exhibition by Waseda University Center of University History in 2016. In the 2016 Spring Exhibition, Waseda University Center of University History conducted a systematic and comprehensive overview of correspondence education in Waseda University as a whole. A summary is provided below.	84
Figure 3.3	Kinosuke YAMADA Lecture Notes- <i>Anglo-American Agency Law (Eibei Dairihou)</i> (1886).....	86
Figure 3.4	Chronology of Occurrences about the Correspondence Lecture Notes at Waseda University.....	89
Figure 3.5	Covers of the lecture notes of the various faculties at Waseda University.	90
Figure 3.6	Braille and translated versions of the lecture notes.	91
Figure 3.7	First-hand materials of the <i>Waseda University Architecture Lecture Notes</i>	118
Figure 4.1	Subject allocation of the Notes in Shōwa 17 th edition.....	169
Figure 4.2	The distribution of subject allocation between the <i>Waseda Architectural Lecture Notes</i> and the Waseda Technical School in 1929 and 1942.	172
Figure 4.3	The distribution of subject allocation between the <i>Waseda Architectural Lecture Notes</i> and the Department of Architecture in 1929 and 1942.....	183
Figure 5.1	Report of the <i>Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i>	201
Figure 5.2	Subject proportion of the <i>Waseda Architectural Lecture Notes</i>	248
Figure 5.3	Subject proportion of the <i>Higher Architecture</i>	248
Figure 5.4	Subject proportion of the <i>ARUSU Architecture Lectures</i>	248
Figure 5.5	The external comparison.	250
Figure 5.6	Schematic diagram of occupation and examination qualifications.	279
Figure 5.7	Diagrammatic representation of the number of industrial schools and industrial schools of architecture.....	280
Figure 5.8	Diagrammatic representation of the number of graduates at industrial schools and industrial schools of architecture.	280

Figure 5.9	Diagrammatic representation of the number of tests qualified at industrial schools and industrial schools of architecture.	280
Figure 5.10	Diagrammatic representation of the number of industrial schools of architecture.	281
Figure 5.11	Diagrammatic representation of the number of graduates at industrial schools of architecture.	281
Figure 5.12	Diagrammatic representation of the number of tests qualified at industrial schools of architecture.	281
Figure 5.13	Waseda Doukoukai Membership Badge and one graduate -Kakuei TANAKA.	282
Figure 5.14	One graduate of the <i>Waseda Architectural Lecture Notes</i> - Soon-kyun HONG.	283
Figure 5.15	Proof of payment of <i>Waseda Architectural lecture notes</i>	283
Figure 5.16	The position of the <i>Waseda Architectural Lecture Notes</i>	289

Chapter 1

Introduction

- 1.1 Background of the Study
- 1.2 Purpose and Significance of the Study
- 1.3 Literature Review
- 1.4 Research Methodology
- 1.5 Structure of this Thesis

Introduction

1.1 Background of the Study

Architecture represents its community and offers living space for its members, where a community could refer to a nation, an ethnicity, or a society. Architecture is also a product of the compound of different complex technologies and techniques. Therefore, architectural education is essential to understanding the subject of Architecture. Architectural education is an integral and vital part of the architectural subject. Architectural education also has an extensive range of critical learning blocks in terms of specializations, including not only the technologies but also the cultural wisdom and sociality that humans have built up over the past.

Western technology was introduced during Japan's opening of its country and economy to the outside world in the Meiji Period (1868-1912), and Japan's modernization began. The Meiji government established the Imperial College of Engineering (later the University of Tokyo)¹ to train human resources for national architecture and urban design, focusing on eclectic Western architecture². The Japanese architecture of this period was designed by foreigners and built by Japanese carpenters using traditional Japanese techniques.

As modernization progressed, the need for technology for housing and construction companies became more widespread. At the time, there was also an urgent need for architectural technicians to support the construction industry. It is evident that the university education of the University of Tokyo alone is not enough. Therefore, institutions such as technical schools (工手学校), higher technical schools (高等工学校) and higher industrial schools (高等工業学校) were established from the latter half of the Meiji Period, to educate human resources for the supporting of the lower structure. The period from the end of the Taishō Period (1912-1926) to the Shōwa Period (1926-1989) was when imported technologies and labour were replaced by self-sustaining ones, and these technologies were spread through books or textbooks. In other words, this period corresponded to the period when the initiative shifted from hiring foreigners to using Japan's own researchers and engineers. Furthermore, economic development in this period led to the establishment of engineering education.

¹ The Imperial College of Engineering was a Meiji Period institution of higher education established for the training of young Japanese engineers in 1877. Referred to 2.1 for a detailed description of the process.

² Eclecticism is an architectural style that flourished in the 19th and 20th-centuries. It refers to any design that incorporates elements of traditional motifs and styles, decorative aesthetics and ornaments, structural features, and so on, that originated from other cultures or architectural periods.

Also, in response to this need, Waseda University founded the Waseda University Vocational Engineering Department (早稲田大学専門部工科)³, Waseda Technical School (早稲田工手学校)⁴, Waseda Higher Technical School (早稲田高等工学校)⁵ and introduced a remote learning program called Waseda Correspondence Education(早稲田通信教育)⁶, which together with the former two schools, catered to the specific demand for professional technicians, as the contemporary architecture technologies relied significantly on the auxiliary support. The correspondence education had been a significant complement to the traditional educational approaches. Using the *Waseda Lecture Notes* as textbooks and course materials, the educational institution served all kinds of people who lacked the time or economic resources to go to school or lived in remote areas. Its mission also went beyond traditional educational purposes. While the institution still furnished its students with technical skills, it also strived to promote public awareness and understanding of architecture expertise and cultivate public interest in general and specific architecture areas within architecture. The *Waseda Architectural Lecture Notes' primary medium* was written, compiled and edited by teachers in the Department of Architecture, Waseda University, and published by Waseda University Press. This whole education system was called *Off-Campus Education*, and those who purchased these lecture notes became *Off-Campus Students*.

³ 早稲田大学専門部工科: the Waseda University Vocational Engineering Department.

⁴ 早稲田工手学校: the Waseda Technical School. Referred to 2.4 (Chapter 2) for detailed research.

⁵ 早稲田高等工学校: the Waseda Higher Technical School. Referred to 2.4 (Chapter 2) for detailed research.

⁶ 早稲田通信教育: the Waseda Correspondence Education. Referred to Chapter 3 for detailed research.

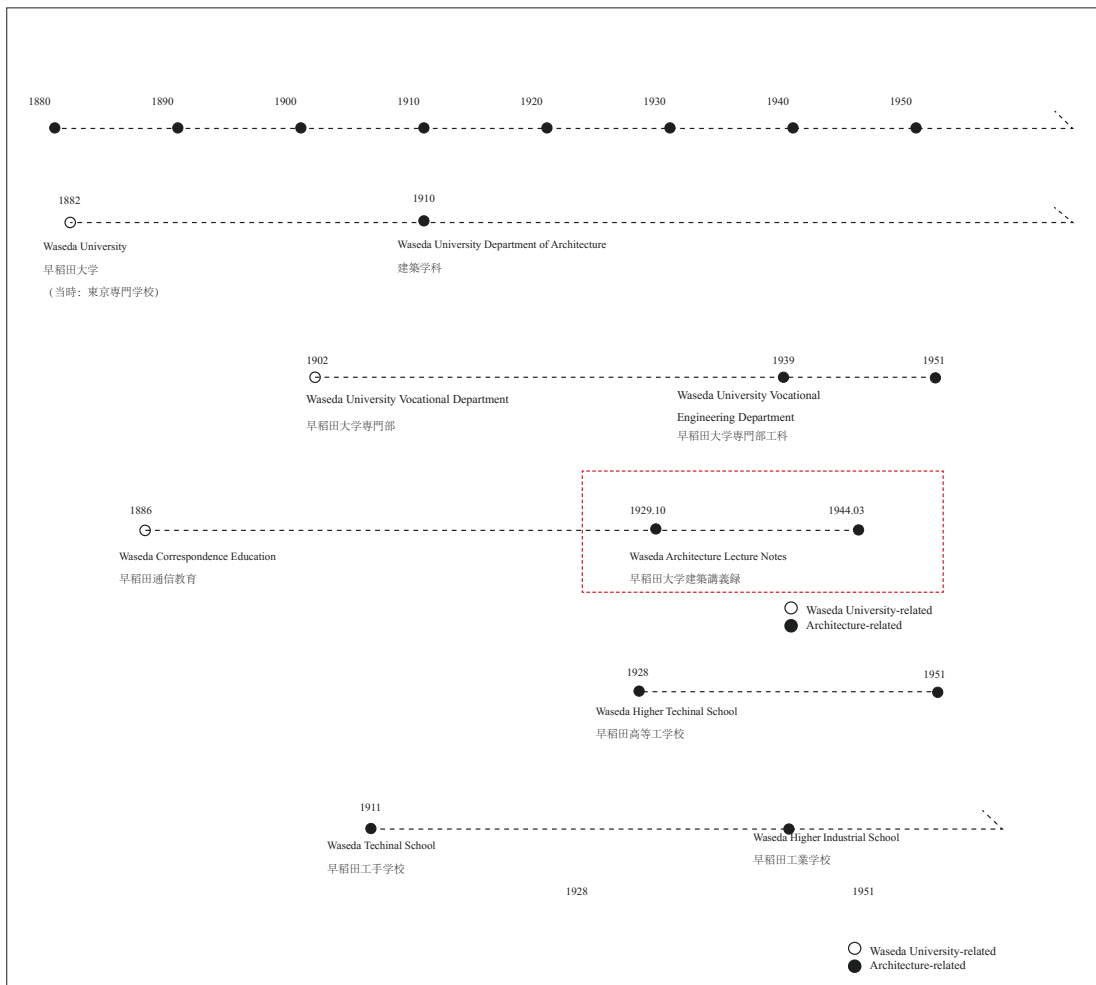


Figure 1.1 Institutional of architecture education in Waseda University. ⁷

⁷ Hanyang WANG and Masaki KOIWA. 2021. “A Historical Perspective of Architecture Education at Waseda University in Japan: Analyses of the Waseda Architecture Lecture Notes for Correspondence Education in the early Shōwa Period”. *Journal of Asian Architecture and Building Engineering*. <https://doi.org/10.1080/13467581.2021.1903904>

In the history of architectural education in Japan, if the Meiji Period and Taishō Period were the beginning of the educational system, the pre-war period before the Shōwa Period was the time when the system was developed and established. Therefore, this study focuses on the establishment process of the curriculum of modern architectural education in Japan from the end of the Taishō Period to the beginning of the Shōwa Period.

Most studies of modern architectural education in Japan have focused on university education. Still, university education at that time was basically in the form of lectures, and there were no systematic textbooks left. Thus, it is difficult to understand precisely what was taught at that time. However, as discussed previously, there was another form of remote architectural education called correspondence education in the Shōwa Period to meet the needs of society, and the aspect of most importance is that correspondence education had its own unique textbooks - Lecture Notes. Even though many of the Lecture Notes of this founding period of architectural education were scattered or lost, fortunately, the authors noticed that some of the Lecture Notes used in the correspondence education still remained in the rare book depository belonging to the Department of Architectural History. The author then took this opportunity to collect and organize the lecture notes, which offered us valuable insights into restoring the actual situation of architectural education at Waseda University in the early Shōwa Period. The correspondence education lecture notes could also help us clarify the technical level in the correspondence education courses at Waseda University and could reveal the quality of engineers that were required at that time. Finally, this research could reach a consensus on the actual disposition of how architectural education from the end of the Taishō Period to the Shōwa Period responded to the progression of the needs of society, how educational purposes were divided between state and private sectors of architectural education, or how education subjects were split.

1.2 Research Aims and Objectives

According to the exposition in *the general history of Japanese education*: educational research can be divided into two research directions. One is the study of education itself, and the other is the study of the history of education. The former is the study of the internal structure of education based on the nature of educational facts or the relationship between them and therefore does not consider the historical origin of its practice. The latter is the analysis of academic facts that occurred in a particular time or space in order to elucidate the process of educational development. It can be seen that the object of pedagogy should be divided into the study of pedagogical substance and the study of the development of pedagogy.

Thus, the object of research on architectural education can also contain two aspects of research: one is the study of architectural education substance, and the other is the study of the history of architectural education, in other words, the study of the development history.

1.2.1 A study of the architectural correspondence education (*Waseda Architectural Lecture Notes*) substance at Waseda University

The purpose of the ontological study of correspondence architecture education at Waseda University is to clarify the analysis of the internal constituents of correspondence architecture education itself, that is, the composition of the *Waseda Architectural Lecture Notes*, and to analyze the characteristics of its constituent forms and its powerful educational functions.

Correspondence architecture education has both the constituent characteristics of correspondence education and the form of professional-pedagogical composition based on the features of the architecture. The teaching ideology, teaching faculty, teaching subjects, and actual practice of the *Waseda Architectural Lecture Notes* are all crucial components different from those of general architectural education. The goal of Waseda's correspondence architecture education is to cultivate architectural technicians who have a systematic knowledge of architectural practice and a sense of social responsibility and who will help designers in their construction work. Therefore, in the ontological study of the *Waseda Architectural Lecture Notes*, publication and distribution, collection and storage, review of the Content, the setting of the subjects, the changes in the subjects, and the teaching faculty will be analyzed.

Only an adequate study of these elements will clarify the pedagogical ideology of correspondence architecture education at Waseda University and serve to supplement the

research gap in the comprehensive survey of architectural education at Waseda University.

1.2.2 History of the development of correspondence architecture education at Waseda University

The study of correspondence architecture education development at Waseda University aims to objectively record and describe the impact of correspondence architecture education in social history development and provide a valuable reference for comprehensive architectural education.

This thesis located and summarized all the first-hand architecture lecture notes shelved at Waseda University and analyzed the contents against the historical context around its publication. This thesis aims to produce an overview of the development of course arrangements, specifically regarding the subject allocation and specific content throughout different versions of the course materials. Based on these analyses, this thesis aims to grasp the context of the correspondence architecture education at Waseda University in the early Shōwa Period and to evaluate the historical role and status of the correspondence architecture education at Waseda University in the early Shōwa Period.

1.3 Literature Review

In this subsection, the author classifies the literature between architectural education and various fields related to correspondence education into the history of Japan Modern Education, the Japan Modern Architecture, the Japan Modern Architectural Education, the Architectural Lecture Notes and the Japan Industry Education.

1) The History of Japan Modern Education

① Ministry of Education, Science and Culture⁸, “*A Brief History of Education in Japan*” (「日本教育史」). August 1877.

Compiled by the Ministry of Education, and released in August 1877, *A Brief History of Education in Japan* is mentioned in the preface as the earliest document relating to the study of the history of education in Japan. This book mainly records the first half of the Meiji Period, when the compulsory education system had just been established, so this book primarily concentrates on the school system after the Meiji Restoration, and the compilation focuses on the development and rise and fall of schools.

② Jōjitsu SATŌ (佐藤誠実), “*History of Education in Japan*” (「日本教育史」). 1890-1891

The first edition (Ministry of Education, Science and Culture, Department of Library, 1890-1891). Revised edition (Dai Nihon Tosho, 1903).

Another book of the Meiji Period, “*History of Japanese Education*” by Jōjitsu SATŌ, was compiled as a brief history of education. It is in the form of a general compilation of materials. The description of each period is not limited to the development, rise and fall of school education. The section on schools is not the focus of this book, but covers a wide range of political, cultural, economic, artistic, research and religious contents. Correspondingly, many cultural phenomena are also recorded.

③ Hiroyasu OGATA (尾形裕康), “*A study of the general history of Japanese education*” (「日本教育通史研究」). Waseda University Press, January 1980

As a general history book, this book covers the range from ancient times to modern times. It is divided into four periods: the era of continental culture-dependent education, the era of Japanese culture-self-conscious education, the era of Western culture-intake education, and modern education. The ancient, Nara, Heian, and Kamakura periods are defined as continental culture-dependent education (Part I), the

⁸ 文部省: Ministry of Education, Science and Culture

Yoshino, Muromachi, and Edo periods are defined as the period of Japanese culture-consciousness education (Part II). The Meiji Period and Taishō Period are defined as the period of Western culture-accepting education (Part III). The education of the early Shōwa Period and the postwar period are classified as modern education (Part IV).

The division of these four periods by Hiroyasu OGATA is based on a systematic knowledge of the basics of each historical period in Japan, and the book is a wealth of references, providing an extraordinary, detailed research value for subsequent researchers.

This book differs from its predecessors in that it does not codify the development of the school system. Still, the detailed chronology in the appendices allows for a summary of the changes in the school system. The book also has many detailed photographs, making it more interesting to read. It can be used as a general history source for researchers or as a hobby book for the public.

2) The History of Japan Modern Architecture

Teijirō MURAMATSU divides the historical periods of Japanese architectural history after the Meiji Period into the following six periods in *Proceedings of the Association*, and the column of time range in Table 1.1 is marked with six numbers for each of the five phases.

Table 1.1 Six phases of Japanese Architectural History by Teijirō MURAMATSU⁹.

Phases フェーズ	Period 時代
1	End of the Bakufu-1876 (Meiji 9 th) 幕末-1876(明治 9 年)
2	1877 (Meiji 9 th)- 1885 (Meiji 18 th) 1877 年(明治 9 年)~1885 年(明治 18 年)
3	1886 (Meiji 18 th)- 1911 (Meiji 44 th) 1886 年(明治 18 年)~1911 年(明治 44 年)
4	1912 (Taishō 1 st)- 1922 (Taishō 11 th) 1912 年(大正元年)~1922 年(大正 11 年)
5	1923 (Taishō 12 th)- 1944 (Shōwa 19 th) 1923 年(大正 12 年)~1944 年((昭和 19 年)
6	1945 (Shōwa 20 th)- 1945(昭和 20 年)

There are many individual studies on this subject, but in terms of general history, one of the more significant is a history of modern architecture written by Eizō INAGAKI and Teijirō MURAMATSU. The former provides a comprehensive history of the establishment of modern architecture, including its legacy, design, education, and technology. At the same time, the latter focuses on building technology and introduces the history of modern architecture as a technical history in terms of building structure, construction methods, and building materials.

In addition, *the modern Japanese architecture development history* Part 10, Chapter 3, Chapter 4 introduces the history of modern architecture in conjunction with the architectural activities of Chūta ITŌ and Tadashi SEKINO related to architectural history.

MURAMATSU has combed through more of the modern architectural history studies that have been mentioned by modern architectural history researchers, such as the widely known *Architecture 6: History of Modern Architecture*(「建築学大系 6 —近代建築

⁹ Made by the author based on “Period Classification of the History of Japanese Architecture”by Teijirō MURAMATSU.

史」), which was edited by Yūichirō KŌJIRO (神代雄一郎) and Kimimasa ABE (阿部公正), *History of Modern Japanese Architecture* (「日本近代建築技術史」) and *History of Modern Japanese Architectural Technology* (「日本の近代建築の歴史」) edited by Teijirō MURAMATSU (村松貞次郎), *Outline of the History of Modern Architecture* (「近代建築史概説」) edited by Teijirō MURAMATSU, Sakae ŌMI (近江栄), Takashi HASEGAWA (長谷川堯), *New Compendium of Architecture 5: History of Modern and Contemporary Architecture* (「新建築学大系 5 —近代・現代建築史」) edited by Hiroshi YAMAGUCHI (山口廣) etc., these research covered the first period to the sixth period in the area delineated by MURAMATSU above.

Also *Architecture in the Meiji Period - One Hundred Years of Architecture* (「明治の建築—建築百年のあゆみ」) edited by Shinjirō KIRISHIKI (桐敷真次郎), which covered of the aforementioned periods 1-4. Or *Notes on Post-War Architecture* (「戦後の建築論ノート」) edited by Shūji FUNO and *Modern Architecture in Japan 1958-1983* (「日本の現代建築— 1958-1983」) edited by Hiroyuki SUZUKI (鈴木博之), which covered only of the aforementioned period 6.

As we can see, the research on the history of modern Japanese architecture occurs in the five phases, which this thesis will examine. Overall, there is scarce research on this period of architectural establishment in Japan due to a lack of literature materials.

3) The History of Japan Modern Architectural Education

① Architectural Institute of Japan (日本建築学会), “Architectural education” *The modern Japanese architecture development history*. (「建築教育」『近代日本建築学発達史』) (1972). Tokyo: Maruzen Publishing.

The General Introduction and Chapters 2 and 3 of the “*History of the Development of Modern Architecture*” published by the Architectural Institute of Japan in Part 11 present the history of changes in architectural education in Japan, showing in detail the curriculum from the founding of the nation to the pre-war and post-war periods. The research results of “A History of the Development of Modern Architecture” are as follows.

The general introduction of this book considers the historical development of architecture and architectural education in terms of research and education, mainly at universities, and the spread of higher education at industrial schools, and takes the view that the activities of trained architects became a medium and provided feedback as a social effect of education.

In the second chapter, the history, syllabus, curriculum, and faculty of each school are discussed in the context of the development of architectural education and the

transformation of educational institutions before 1940 and, if necessary, after the war. Focusing on the changes in the specialized subjects, content, and schedule of each school. In addition, a separate chapter describes the development and transformation of secondary architectural education before and after the war, as well as an overview of postwar university education.

In Chapter 3, the beginning of architectural education in the first period and the development of architectural education institutions in the second period are described in detail from Section II to Section XVI. The third period, the post-war period, is introduced in Chapter 5 and Chapter 6.

② Keiichi SHIMIZU(清水慶一), “*On the Elementary and Secondary Architectural Education at Early in the Meiji Era*, Doctoral dissertation”(「明治期における初等・中等建築教育の史的研究」)(博士論文), (1982), Nihon University.

In SHIMIZU’s ‘*A Study of Architectural Education in Elementary and Secondary Schools in the Meiji Period*’, the nature of education, the curriculum, and the textbooks used in apprentice and industrial schools are examined in detail. His paper divides the Meiji Period into three periods based on the characteristics of architectural education and argues for a shift in education from skills to techniques, using the curriculum materials of the time as primary data.

In Chapter 1, “Elementary and Secondary Architectural Education at the Dawn of the Meiji Period,” the following conclusion is reached.

*“In this way, secondary education during the Meiji Period focused on civil engineering and manufacturing techniques. Architectural education was centred on primary technical education, while art education (such as Art or Art Manufacture) was an important aspect of architecture that was lacking. This was unavoidable due to the current situation. Although this was unavoidable due to the circumstances of the period, it should be noted that secondary architectural education in Japan started from this type of immediate technical education.”*¹⁰

In other words, the following discourse explains that industrial education in Japan completely shifted to the training of engineers at the end of the Meiji Period.

③ Mayumi TSUNODA(角田 真弓), “*History of Architecture in the Meiji Period*”(「明

¹⁰ Keiichi SHIMIZU. 1982. “On the Elementary and Secondary Architectural Education at Early in the Meiji Era”. Tokyo : Nihon university.

治期建築学史」), (2019), Chūōkouron Bijutsu Shuppan Publishing (中央公論美術出版).

The first part of *'History of Architecture in the Meiji Period'* by Mayumi TSUNODA explains higher engineering educational institutions' establishment and overall situation in the early Meiji Period. The second part, focusing on architecture, traces the former the formation of higher education and audience architecture.

In the second part, the author mentions that the earliest architectural educational institution in Japan was architecture established by the Imperial College of Engineering (工部大学校)¹¹ opened in 1871 (Meiji 4th). The subsequent institutions of higher engineering education opened were the Tokyo Industrial School (東京職工学校)¹² in 1881 (Meiji 14th), the Tokyo Senmon Gakko (東京専門学校)¹³ in 1882 (Meiji 15th), and the Kyoto Imperial University in 1897 (Meiji 30th). However, none of these schools had architectural disciplines. TSUNODA argues that only the Imperial College of Engineering --- the Imperial University's College of Technology¹⁴ were responsible for the formation of architecture in the Meiji Period, and that clarifying the content of this part of education is essential to understanding the formation of architecture.

Therefore, the second part of this book focuses on architectural education in the mid-Meiji Period at the Imperial College of Engineering, the Imperial University's College of Technology. In addition to school education, the establishment of architectural books can also be considered part of architecture's formation process. Since many non-Western translated books on architecture were published from the 1920s onward, TSUNODA analyzes the systematic process of architectural formation in the Meiji Period through the analysis and influence of these books.

¹¹ 工部大学校 : the Imperial College of Engineering, later University of Tokyo.

¹² 東京職工学校: the Tokyo Industrial School, later Tokyo Institute of Technology.

¹³ 東京専門学校: the Tokyo Senmon Gakko, later Waseda University.

¹⁴ 帝国大学工科大学 : the Imperial University's College of Technology.

④ Hiroshi YAMAGUCHI (山口 廣) , “*History of Elementary and Secondary Architectural Education: Woodworking Education in the Meiji Period*” (「初等中等建築教育の歩み—明治期の木工教育— 」) , (1975). *Journal of architecture and building science*, Vol 90.

The study of the characteristics of primary, secondary construction education in Japan can be seen in Hiroshi YAMAGUCHI’s “*History of Elementary and Secondary Architectural Education: Woodworking Education in the Meiji Period*”. It focuses on carpentry education in the Meiji Period, and after elaborating on the changes in the school system and educational content, he went on to analyze the changes in the disciplines of several schools and draws the following conclusions. “*At the end of the Meiji Period, after the initial two major secondary technical education such as carpentry and metalworking were screened out, they were re-divided into industrial disciplines such as mechanics, electricity, and metal. Architectural education was dedicated from carpentry education to architectural education and fulfilled the function of training intermediate technicians in modern architecture.*”¹⁵

At the end of the Meiji Period, secondary technical education, which had initially introduced two significant categories, woodwork and metalwork, was almost completely dismantled and reorganized according to industrial sectors such as machinery, electricity, and architecture. Architectural education also changed from woodwork, to *zouka*¹⁶, and then to architecture, and became a function to train intermediate engineers to emerge modern architecture.

His research views are the same as those of SHIMIZU and TSUNODA in that they all propose the nature of architectural education and the time when it was established.

The scope of these three studies mainly focuses on the Meiji Period and does not address modern architectural education in the early Shōwa Period, which is the subject of this thesis.

¹⁵ 山口廣. 1975. 「初等中等建築教育の歩み—明治期の木工教育— 」、(建築雑誌) 第90巻.

¹⁶ 造家科: Zouka

4) The History of Architectural Lecture Notes

Table 1.2 Lecture notes published during Taishō Period and early Shōwa Period.

Period	Lecture Notes	Publisher/Author
1913 (Taishō 2 nd)	<i>Japan Industrial Technology Societies</i> 大日本工業学会 <i>Architecture Lecture Notes</i> 『建築講義録』	Tokyo Institute of Technology 東京工業大学
1922 (Taishō 11 th)	<i>Imperial Industrial Education Association</i> <i>Architecture Lecture Notes</i> 帝国工業教育会 『建築講義録』	Waseda University 早稲田大学
1924 (Taishō 13 th)	<i>Architecture Lecture Notes</i> 『建築講義録』	Architecture World Press 建築世界社
1926 (Taishō 15 th)	<i>Arusu Architecture Lecture</i> 『アルス建築大講座』	Arusu アルス
	<i>Architecture Materials</i> 『建築資料叢書』	—
1929 (Shōwa 4 th)	<i>Waseda Architectural Lecture Notes</i> 『早稲田建築講義』	Waseda Univ. Professors etc. 早稲田大学教員他
1932 (Shōwa 7 th)	<i>Higher Architecture</i> 『高等建築学』	Famous researchers 各自研究者
	<i>Practical Architecture Lecture</i> 『実用建築講座』	Unknown
1942 (Shōwa 17 th)	<i>Architectural Design Data Integration</i> 『建築設計資料集成』	Architectural Institute of Japan 日本建築学会
	<i>Newest Construction Engineering</i> 『最新建築工学』	—
	<i>New Editor of Architecture</i> 『建築新書』	—

More relevant research can be found in Hisao NAKAJIMA's publication. He mentioned that Japanese architects' compilation in Japanese architecture originated in the early Meiji Period, when Japanese architects started to translate European and American architectural publications into Japanese. After 1887 (Meiji 20th), Japanese architects began to compile and edit lecture notes on architecture for publication. Table 1.2 briefly summarizes the lecture notes published and issued during the Taishō Period and the early Shōwa Period, among which the *Waseda Architectural Lecture Notes* were a set of comprehensive, well-organized lecture notes written and edited by professors from Waseda University.

Ikuo HIRAYAMA shed additional light on 1894 (Meiji 27th) *Taki Daikichi Architecture Lecture Notes* mentioned in Hisao NAKAJIMA's publications. He analyzed Daikichi TAKI's activities in Osaka and studied various aspects of the lecture notes used in the technical evening schools, including course schedules, contents of the lecture notes, and

the publishing process of the separated and combined volumes.

There is also a previous publication specifically dedicated to the architecture education of Waseda University. In the magazine, Takahide HORII presented the two education systems available during the early establishment of the Waseda University. However, as Takahide HORII's research focused more on the education outlook of renowned professors, including Professor Kōichi SATŌ and Professor Tachū NAITŌ, it only briefly summarized the two education systems without a detailed analysis into the specific institutional arrangements of each education system, such as course schedules and textbook contents.

Additionally, valuable information on correspondence education of Waseda University can also be found from Waseda University Archives of Nao HIROKI. 2016 Spring Exhibition of Waseda University presented ample details of the origins, development, and finale of correspondence education in the university. It also exhibited the profiles of some graduates of the correspondence education at Waseda University who became professors and social celebrities. However, it did not provide more than an introduction to the contents of the correspondence education itself.

This thesis will focus specifically on the *Waseda Architectural Lecture Notes* used in the correspondence education of Waseda University by analyzing and discussing its contents.

5) The History of Japan Industry Education

① Architectural Institute of Japan (日本建築学会), “Construction Industry” *The modern Japanese architecture development history*. 「建設産業」『近代日本建築学発達史』(1972). Tokyo: Maruzen Publishing.

In Chapter 7, “Construction Industry of Part IV, Construction Economy”, of *the modern Japanese architecture development history- Construction Industry*, the following aspects are examined. These include the pre-formation form of the construction industry, the introduction of capital from the Meiji Period, the establishment of production organization and technological innovation, the re-formation of the construction industry sector and the path of the post-war system.

In addition, Chapter 8 on Construction Labour is also inextricably linked to the construction industry, but more attention is paid here to the controversies of construction labour, and the author will examine the wages of construction-related occupations in construction labour.

However, the descriptions in this book are more of a collection of information of a retrieval nature and do not provide an in-depth examination of the specifics of the construction industry. Thus, there is a need for research on specialized books.

② Tadao MIURA (三浦忠夫), “*The Japan’s Construction Industry: Clarifying the Construction Cycle and Industrial Structure*”(「日本の建築生産 組織の発生・体系の合理化を解明する」), (1977). SHOKOKUSHA Publishing Co., Ltd.

Kunio MAEKAWA, gives high marks to two books by Tadao MIURA, in his preface review of Tadao MIURA’s book-*the Japan’s Construction Industry: Clarifying the Construction Cycle and Industrial Structure*, “*Judging from MIURA’s past career, I believe that he can be expected to provide accurate information about the reality of the Japan’s Construction Industry World, which continues to be in turmoil.*”¹⁷

MIURA mentions in this book that before World War II, the term “construction industry¹⁸” did not exist. It was called the civil engineering and construction contracting industry¹⁹ since the Meiji Period. The traditional skills that had been used since Asuka Period (592-645) were utterly neglected, and only the superficial nature of the contracting business was considered a characteristic of the industry. As for the

¹⁷三浦忠夫「日本の建築生産 組織の発生・体系の合理化を解明する」、彰国社、1977年

¹⁸ 建設産業: Construction Industry

¹⁹ 土木建設請負業: Civil Engineering Construction Industry

discussion of building production, he published a follow-up volume, “*Building Production in Japan: Elucidating the Emergence of Organization and Rationalization of Systems*”, intending to clarify the emergence of the industrial organization and the rationalization of the production system.

He described the post-war situation as follows.

“During the war, the industry was subjected to liquidation and downsizing as a non-essential industry, and the ability of construction companies to procure equipment and labour was completely stripped away, leaving both corporate management and construction organizations powerless. However, in 1945, the military finally recognized that the construction industry’s disregard for construction capacity was one of the reasons for its defeat in the war, and rushed to order the establishment of a wartime construction corps. In 1948, the Ministry of Construction²⁰ was finally established, the Construction Business Act²¹ and the Act on Architects and Building Engineers²² were enacted, and the construction administration took shape and construction statistics were released.²³”

Therefore, his research in this book is mainly focused on the post-war period, and only a brief overview of the pre-war construction industry is given, and the pre-war period of the Shōwa Period can be referred to the history of the *development of the construction industry in Japan*.

²⁰ Ministry of Construction (建設省, Kensetsu-shō, MOC) was a government ministry of Japan.

²¹ 建設業法: The Construction Industry Act (Act No. 100 of May 24, 1949) is a Japanese law that aims to ensure the proper execution of construction work, protect clients and subcontractors.

²² 建築士法: The Act on Architects and Building Engineers (Act No. 202 of 1950, promulgated on May 24, 1950) is a law that stipulates the qualifications of engineers who design and supervise the construction of buildings, with the aim of contributing to the improvement of the quality of buildings.

²³ 三浦忠夫「日本の建築生産 組織の発生・体系の合理化を解明する」、彰国社、1977年

③ Tomoya KIKUOKA (菊岡 俱也) (Construction Culture Research Institute 建設経済研究所), “The Development of the Construction Industry in Japan”(「日本建設産業発達史-昭和戦前の建設産業」)(1995), *Architectural product-engineering No. 369-371* (「施工: 建築の技術」) SHOKOKUSHA Publishing Co. Ltd (彰国社).

The History of the Development of the Construction Industry in Japan is a series of periodicals edited by Tomoya KIKUOKA²⁴ and published by the Institute of Construction Culture Research Institute on the occasion of the 50th anniversary of the post-war period in the magazine “*Architectural product-engineering*”, with the aim of collecting and reconstructing various facts of the past, guiding the readers to understand the history of the construction industry in each period.

The editor foresees that in the future, the history of the construction industry in the Shōwa Period will be compiled as a general history from various perspectives, then this series of articles will provide material in the form of a history of the Shōwa Period, they hope that this series of serials will provide some basic information for future researchers to think about the construction industry.

The author aims to extract information from related to the construction industry, such as the *Encyclopedia of Construction Industry* and the *History of the Construction Industry* and use it statistically to analyze the impact of the *Waseda Architectural Lecture Notes* on society.

²⁴ 菊岡 俱也 : who was the director of the Construction Industry Library and also presided over the Construction Culture Research Institute, worked at the Building Research Institute of the Independent Administrative Institution (former Ministry of Construction) and the Building Center of Japan.

1.4 Research Methodology

The study of architectural education at Waseda University involves different disciplines such as the history of education, history of architecture, and modern Japanese history. It is an interdisciplinary and cross-cutting study, and the following research methods will be used.

1) Literature Research and Bibliography

The thesis is based on extensive reading and collation of documentary sources to present historical material, make arguments, and present ideas. This thesis is based not only on the history of architectural education, theories of architectural education and works related to the practice of architectural education, but also on relevant architectural history and theories. The author has collected a large number of valuable historical materials on the establishment and teaching of the Waseda University, including the *Waseda University Architectural Lecture Notes* kept within the Department of Architecture, as well as the conceptual teaching materials (such as curriculum, syllabi, course records, teachers' notes, etc.), students' assignments, teachers' papers, and the school's administrative regulations and evaluation the school's administrative regulations and assessment documents, etc. Despite the fact these materials were often scattered, so the author extracted the relevant information from a large number of historical materials and analyzed them.

2) Comparative Analysis

In this thesis, the comparative study method is used extensively. Both longitudinal and cross-sectional analyses are used in the discussion of the development of modern architectural education and curriculum systems in Japan. Through a horizontal comparison of architectural education at the state universities (University of Tokyo, Tokyo Institute of Technology, Nagoya Institute of Technology, and Kyoto University) and private universities (Waseda University, Nihon University and Kogakuin University), the position of architectural education at Waseda University in the history of architectural education in Japan is derived. Afterwards, a comparison is also made between the *Waseda Architectural Lecture Notes* and other contemporaneous architectural books, both as a series of books and as a single volume with the same content. It also compares the specific contents of the *Waseda Architectural Lecture Notes* with those of the civil engineering construction industry and the construction industry. These analyses allow a direct examination of the level of education the

Waseda Architectural Lecture Notes represents.

3) Architectural Statistics

Since it is difficult to count the number of the *Waseda Architectural Lecture Notes* distributed and the number of people who purchased them, this thesis uses the statistical method of time series and indices to provide statistics on a broader range of architectural disciplines. This includes statistics on the distribution of architectural textbooks, the scope of architectural education, the construction of buildings, and even building societies in the Shōwa Period, so that we can chronologically estimate the trend of the relationship between architectural education and the building industry in the Shōwa Period. These statistics can be compared directly with the *Waseda Architectural Lecture Notes* to determine the level of architectural education or indirectly to deduce the impact of the *Waseda Architectural Lecture Notes* on society.

1.5 Structure of this Thesis

This thesis located and summarized all the first-hand architecture lecture notes shelved at Waseda University and analyzed the Content against the historical context around its publication. This thesis aims to produce an overview of the development of course arrangements, specifically regarding the subject allocation and specific content throughout different versions of the course materials. Based on these analyses, this thesis aims to grasp the context of the correspondence education of Waseda University in the early Shōwa Period, and to evaluate the historical role and status of Waseda University in architecture education in the early Shōwa.

The current chapter discusses the research background, research purpose, research methods, and literature review, and introduces the research background of the overall Japanese society. The literature review section conducts a large amount of data research on the five aspects of Japan Modern Education, the Japan Modern Architecture, the Japan Modern Architectural Education, the Architectural Lecture Notes and the Japan Industry Education. The author used mixed research methods such as Literature Research and Bibliography, Comparative Analysis, and Architectural Statistics.

Chapter 2 focuses on the research background of architectural education from the Meiji Period, divided into a section on modern architectural education in Japan and a section on architectural education at Waseda University. The section about Japan as a whole begins with the University of Tokyo, the original of modern architectural education, and continues with a summary and comparison of the founding and transformation of ten universities (Kogakuin(now, Kogakuin University), Tokyo Institute of Technology, Tokyo School of Arts(now, Tokyo University of Arts), Fukui Higher Technical School(now, Fukui University, School of Engineering), Kobe Higher Technical School(now, Kobe University, School of Engineering), Tokyo Higher School of Arts and Design(now, Chiba University, School of Engineering), Nagoya Higher Technical School(now, Nagoya Institute of Technology), and Kyoto Imperial University(now Kyoto University), and Nihon University) that were typical of the Shōwa Period. The section on Waseda University begins with the founding of the department of science and engineering discipline and moves on to the direction of architectural education in the Shōwa Period, establishing the *Waseda Architectural Lecture Notes* as the object of this research.

In Chapter 3, first, an overview of the four different architectural institutions of Waseda University was again presented, as well as a survey of Correspondence Education at Waseda University as a whole. After reviewing the history of Correspondence Education at Waseda University, the author began researching Architectural Correspondence Education at Waseda University. This chapter focuses on the analysis of publication and distribution, collection and storage, the review of the specific contents. The author collected four series of lecture notes that existed in Japan until the present time, and by analyzing the particular contents, the author identified that the four series were issued in Shōwa 4th, Shōwa 7th, Shōwa 15th, and Shōwa 17th. Most of them have been summarized in detail. It was found that the education policy of the early Shōwa Period had not changed much from Shōwa 4th to Shōwa 15th, and only the course of mechanical equipment had been added or deleted significantly. However, there was an undeniable change from Shōwa 15th to Shōwa 17th. The specific changes were examined and the reasons for the changes in the next chapter.

Chapter 4 establishes the importance and status of the *Waseda Architectural Lecture Notes* used in Waseda University's Correspondence Education. The specific changes and the reasons for the modifications of chapter 3 was examined through terms of the content and composition of the lecture notes by analyzing the educational background of the professors who edited the *Waseda Architectural Lecture Notes* and the subject allocation of the Notes. The *Waseda Architectural Lecture Notes* were compared with the internal architectural education of the Department of Architecture at Waseda University. In this chapter, the actual state of architectural education in the early Shōwa Period and the educational philosophy of the Department of Architecture at Waseda University were explained.

Chapter 5 points out the significance of the *Waseda Architectural Lecture Notes* to society by examining the comparison among the *Waseda Architectural Lecture Notes*, the *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools* (「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」) and external architectural education-Industrial Education. After comparing the contents of the *Waseda Architectural Lecture Notes* with those of external industrial education textbooks, the author continued to examine the standards of industrial education textbooks and established the contribution of the *Waseda Architectural Lecture Notes* to industrial education. The author also conducted research on the graduates of the *Waseda Architectural Lecture Notes* to verify the actual social significance of the *Waseda Architectural Lecture Notes* in multiple ways.

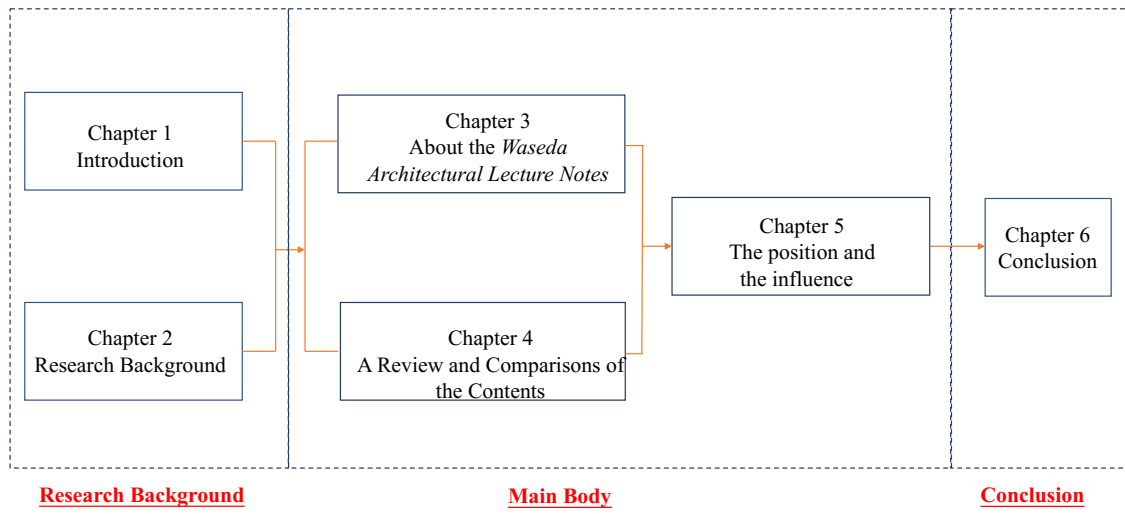


Figure 1.2 Thesis structure diagram.

References

In sequential order

- Yasutada WATANABE. 1991. “History of the Department of Architecture, Faculty of Science and Engineering, Waseda University” *Waseda Architecture*: 12-19.
- Tachū NAITŌ. 1929. “On the occasion of the first publication of Waseda University’s architectural lecture” *Waseda University Architecture Lecture First Issue* (1).
- MINISTRY OF EDUCATION, SCIENCE AND CULTURE. 1877. *A Brief History of Education in Japan*. Tokyo: MINISTRY OF EDUCATION, SCIENCE AND CULTURE.
- Jōjitsu SATŌ. 1890. *History of Education in Japan*. Tokyo: MINISTRY OF EDUCATION, SCIENCE AND CULTURE.
- Hiroyasu OGATA. 1980. *A study of the general history of Japanese education*. Tokyo: WASEDA UNIVERSITY PRESS.
- Teijirō MURAMATSU. 1962 “Period Classification of the History of Japanese Architecture” *Proceedings of the Association of Architectural Institute of Japan*. No.76: 350.
- Eizō INAGAKI. 1959. *Modern architecture in Japan and its founding process*. Tokyo: MARUZEN PUBLISHING.
- Teijirō MURAMATSU. 1959. *History of Japanese Construction Technology*. Tokyo: CHIJIN SHOKAN PUBLISHING.
- ARCHITECTURAL INSTITUTE OF JAPAN. 1972. “Architectural education” *The modern Japanese architecture development history*. Tokyo: MARUZEN PUBLISHING.
- ARCHITECTURAL INSTITUTE OF JAPAN. 1972. “Construction Industry” *The modern Japanese architecture development history*. Tokyo: MARUZEN PUBLISHING.
- Keiichi SHIMIZU. 1981. “On the Elementary and Secondary Architectural Education at Early in the Meiji Era” *Journal of the Architectural Institute of Japan* No.307: 142-150.
- Keiichi SHIMIZU. 1982. “On the Elementary and Secondary Architectural Education at Early in the Meiji Era”. Tokyo : NIHON UNIVERSITY.
- Mayumi TSUNODA. 2019. *History of Architecture in the Meiji Period*. Tokyo: CHŪŌKOURON BIJUTSU SHUPPAN PUBLISHING.
- Hiroshi YAMAGUCHI. 1975. “History of Elementary and Secondary Architectural Education: Woodworking Education in the Meiji Period” *Journal of architecture and building science*, Vol.90: 1033-1036.

- Hisao NAKAJIMA. 1987. “Transition of architectural education from the viewpoint of architectural lecture records in the Taishō and early Shōwa Period (1st session)” *Proceedings of Annual Conference of Japanese Society for Engineering Education* 1987: 3-4.
- Ikuo HIRAYAMA. 2018. “STUDY ON THE PUBLICATION OF “KENTIKUGAKU-KOUGIROKU” LECTURED BY DAIKITI TAKI AND KOUGYO-YOGAKKO” *Journal of Architecture and Planning (Transactions of AIJ)* 83 (752), 1999-2005. doi:10.3130/aija.83.1999
- Takahide HORII. 2013. “The study of modern Japanese architectural education: A Case Study of Lecture Notes architecture school Waseda, Koshu Waseda and Waseda University school of Architecture” *Summaries of technical papers of annual meeting* 2013: 969-970.
- Tadao MIURA. 1977. *The Japan’s Construction Industry: Clarifying the Construction Cycle and Industrial Structure*. Tokyo: SHOKOKUSHA PUBLISHING.
- Tomoya KIKUOKA, 1995a, “The Development of the Construction Industry in Japan-4-The construction industry before the war-1” *Architectural product-engineering* No.369: 115-128.
- Tomoya KIKUOKA, 1995b, “The Development of the Construction Industry in Japan-5-The construction industry before the war-2” *Architectural product-engineering* No.370: 113-126.
- Tomoya KIKUOKA, 1995c, “The Development of the Construction Industry in Japan-6-The construction industry before the war-3” *Architectural product-engineering*: No.371: 117-134.
- THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY. 1938a. *The future of industrial education in Japan*. Tokyo: THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY.
- THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY. 1938b. *Industrial education to cope with the current situation*. Tokyo: THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY.
- Toshio TOYODA. 1982. *Industrial Education in the Early Days of Japan’s Industrialization*. Tokyo: UNITED NATIONS UNIVERSITY.
- Toshio TOYODA. 1984. *Industrial Education of Japan’s Industrialization*. Tokyo: UNITED NATIONS UNIVERSITY.

Chapter 2

A Brief History of Modern Architectural Education in Japan

- 2.1 Architectural Education in Response to the Development of Civilization and Industrialized Society in the Meiji Period
- 2.2 The Beginnings of Modern Architectural Education in Japan
- 2.3 The System of Japanese Architectural Education in the Early Shōwa Period
- 2.4 The Philosophy of Architectural Education at Waseda University
- 2.5 Conclusion

2.1 Architectural Education in Response to the Development of Civilization and Industrialized Society in the Meiji Period

“ Since the origin of modern architecture in Japan was the English teacher Josiah Conder (ジヨサイア・コンドル), it was natural that all the academic techniques of architecture were British. However, this teacher and Professors TATSUNO and NAKAMURA worked hard to evolve the design and structure of architecture to adapt to the climate and climate of Japan, and gradually changed its face. Professor TATSUNO, in particular, possessed outstanding skills in the education, design, and implementation of architecture, and his achievements as a leading figure in the field of architecture in Japan from the Meiji Period to the beginning of the Taishō Period, and as a general leader in this field, were tremendous.”²⁵

----- Academic Overview of the University of Tokyo -

The modernization of Japanese architecture and the development of architectural education can be divided into three periods. The first period is from the early Meiji Period to the end of World War I, the second period is from 1920 (the 9th year of the Taishō Period) to the end of World War II, and the third period is from 1945 (the 20th year of the Shōwa Period) onward.

The construction industry has long been supported by the feudal apprenticeship system, and construction sites provided a place to learn this system. This system had a dual structure, creating a dichotomy between the lower structure and the upper structure (occupied by graduates of universities and industrial schools who received modern education), which collapsed at the start of World War II.

The modernization of Japan began when the country was opened to the outside world and Western technologies were introduced, during the Meiji Period. At the end of World War I, Japan's industrial revolution reached its peak. The demand for architecture was strengthened by the Great Kanto Earthquake, and architectural education was further developed from 1919 (Taishō 8th) to 1930 (Shōwa 5th).

The technologies introduced during the Taishō Period and the Shōwa Period were replaced by autonomous technologies (self-reliance), which were popularized through books. This popularization led to training and development of mid to high-level

²⁵ 『東京帝国大学学術大観』,1942, 東京帝国大学

engineers. Thus, the initiative was transferred from hiring foreigners to Japanese researchers and engineers.

This period was a time of significant social change. For example, the Industrial Revolution brought about a dramatic increase in industrial production. At the same time, extended the class relationship among the workers to every part of the society.

In England, throughout the Middle Ages and until the middle of the 17th century, the industrial structure was supported by guilds. However, after the Great Fire of London in 1666, a new commercial-based construction mechanism was adapted. The slow production process of the guild system could not complete with the large amount of new construction. The role of the master builder, who integrated the guilds, gradually emerged. Until then, the design process had been carried out by artisans working together with the client and the artisan was not clearly separated from the production process, this was the predecessor of what is now called the role of the architect.

From the end of the 18th century to the 19th century, the construction industry increased demand. The contracting system was promoted, and the traditional bricklayer took on the role of the prime contractor. This was because bricks were the primary building material at the time, and the craftsmen were the most knowledgeable about the entire construction process. This is evident as the majority of contractors in Japan started out as carpenters. A lot of research has shown the changes in building technology, materials and production methods in that period.

For example, Keiichi MIYATANI²⁶ has a research article about the brick industry in the Meiji and Taishō Periods. The article analyzed brick production in modern Japan with statistical data. Through his study, it has been possible to clarify the state of the brick industry from the end of the Meiji period to the mid Taishō period. He pointed out that during the middle of the Taishō period, a rapid increase in production value was observed, and it was also one of the most critical periods of production value. This was mainly driven by the trend of private construction investment. During the recessionary period from 1920 onwards, the amount of construction investment (both government and private) and cement production increased, but the amount of brick production decreased, suggesting that there was a shift from brick to reinforced concrete construction during this period.

Statistical data shows that the demand in the building market surged into the 1920s, through the increase in number of building societies in several central prefectures throughout Japan. The demand for architecture, which required new techniques (e.g., reinforced concrete construction) and design skills increased rapidly around the 1920s, and so the department of architecture was established in the old junior high schools (today's high schools) and technical schools.

This part of the social context can also be reflected in the educational system. The author has compiled a list of edicts relating to education in Japan, as well as the academic year system and its changes in primary, secondary and higher education in the various periods of educational development, based on the *100-year history of the school system*. The specific variations are shown from Figure 2.1 below.

²⁶ Keiichi MIYATANI. 2009. "An Analysis of Brick Industry in The Meiji and Taishō Eras - An analysis of brick production in modern Japan by statistical data Part 1-" (*Journal of Architecture and Planning*) 74 (643): 2095-2100.

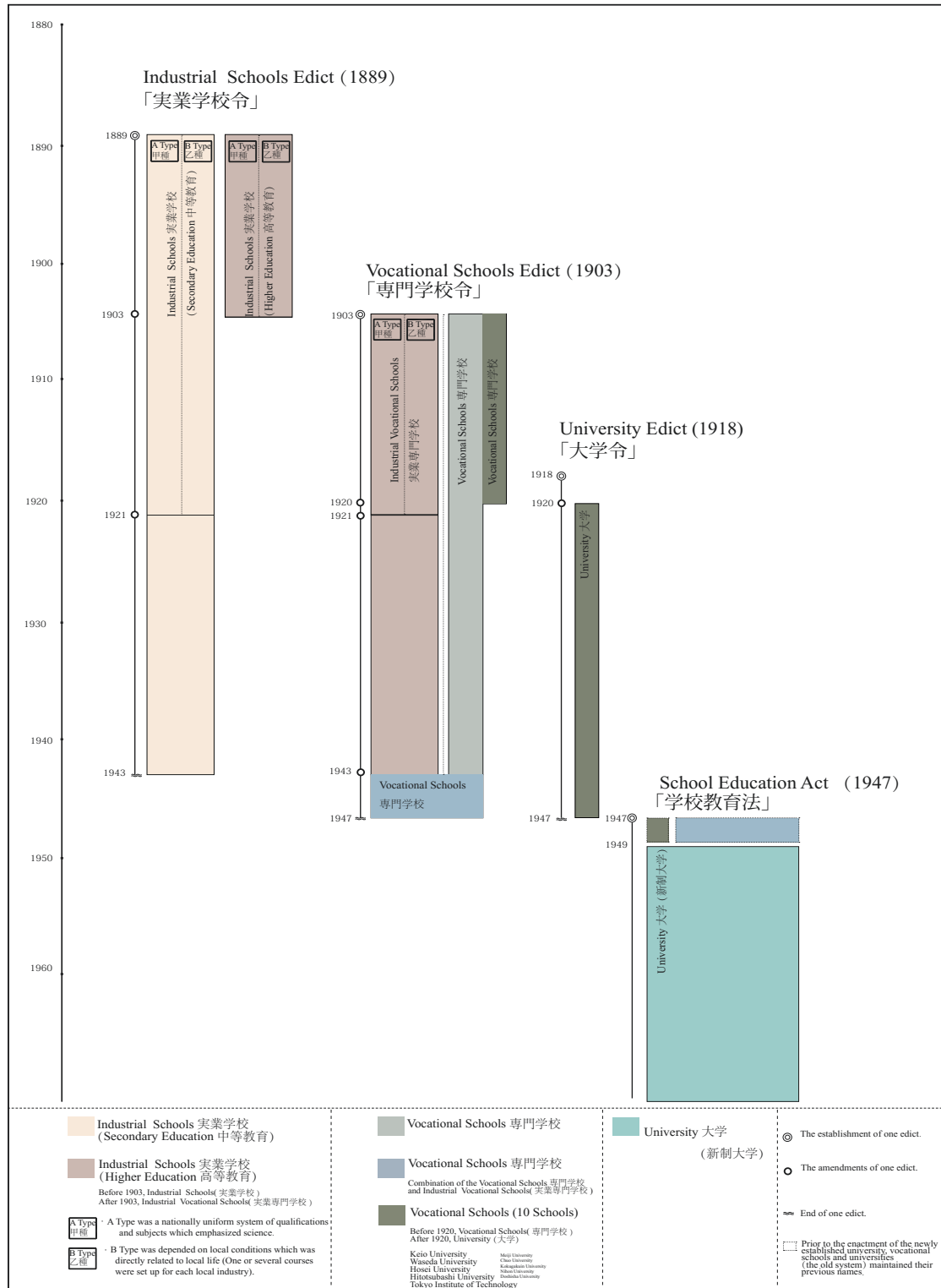


Figure 2.1 A diagram of the reformation in the school system under “Industrial Schools Edict”, “Vocational Schools Edict”, “University Edict” and “School Education Act”²⁷.

²⁷ Made by the author based on *Fifty Years of Industrial Education*.

The “Industrial Schools Edict” (「実業学校令」) was issued in 1899 and at the time of its enactment was divided into two types, A (甲) and B (乙). The A Type was the one which was uniform throughout the country in terms of qualifications and subjects. It provided a medium level of practical education which emphasized science. Type B was based on each local condition (one or several courses were set up according to local industries) which was directly related to local life. However, this distinction was removed based on the amendments in 1921. There was secondary education (light yellow in the figure 2.1) and higher education (brick yellow in the figure 2.1) at a higher level of education.

In 1903, when the “Vocational Schools Edict” (「専門学校令」) was issued, schools offering higher education in industrial education (higher industrial schools, etc.) became “*industrial vocational schools*” (実業専門学校) (brick yellow in the figure 2.1), and the specific rules followed the “Vocational Schools Edict”, which also abolished the A and B classification based on the amendments of “Industrial Schools Edict” in 1921.

When the “Industrial Schools Edict” was repealed in 1943, the “Vocational Schools Edict” was also amended to remove the distinction between “*industrial vocational schools*” (brick yellow in the figure 2.1) and vocational schools (light green in the figure 2.1), thus, referred them as vocational schools (blue in the diagram).

“University Edict” (「大学令」) was published in 1918, and in 1920 it was amended to upgrade the ten institutions (Keio University, Waseda University, Hosei University, Hitotsubashi University, Tokyo Institute of Technology, Meiji University, Chuo University, Kokugakuin University, Nihon University, Doshisha University) in the vocational schools (dark green in the figure 2.1) to universities.

Both the “Vocational Schools Edict” and the “University Edict” were abandoned at the same time as the “School Education Act” (学校教育令) of 1947. The vocational schools and universities (old system) (light green and blue in the figure 2.1) were upgraded to newly established universities (cyan in the figure 2.1) under the “Establishment New Universities” (「新制大学」) - the amendments in 1949 of “School Education Act”.

The department of architecture was founded at a time when industrial education was developing rapidly, as can be seen from the brick yellow areas following “Vocational Schools Edict” in the figure 2.1.

In other words, in the latter half of the Taishō Period (1912-1926), the foundations of

the prewar architectural education system were laid. From 1919 to the beginning of the Shōwa period, there were a considerable number of governmental technical schools which were not governed by the University Edict, and architecture departments were established in Tokyo, Yokohama, Nagoya, Kobe and Fukui. The discussion will continue in 2.3.

In terms of the academic system, there was only one university in the Meiji Period, Tokyo Imperial University. However, from the late Meiji Period, other institutions of higher industrial education, such as higher industrial schools, were established. By the Taishō Period, the establishment of such schools was basically completed in all regions. In addition to Tokyo Imperial University, other schools also established architecture departments: Waseda University, Kogakuin(now, Kogakuin University), Tokyo Institute of Technology, Tokyo School of Arts(now, Tokyo University of Arts), Fukui Higher Technical School(now, Fukui University, School of Engineering), Kobe Higher Technical School(now, Kobe University, School of Engineering), Tokyo Higher School of Arts and Design(now, Chiba University, School of Engineering), Nagoya Higher Technical School(now, Nagoya Institute of Technology), and Kyoto Imperial University(now Kyoto University), and Nihon University, among others.

In addition to Waseda University, there were other private schools such as Kogakuin University, which is said to have started as a training school for artisans, and the Department of Architecture at Nihon University.

On the other hand, the Japanese postal service system was established in 1871 preceding the world's earliest postal service which was started in 1840 in England. After the establishment of this system, Isaac Pitman²⁸ published his shorthand textbooks and began a correspondence course to teach shorthand. Since then, communication education has been taking place around the world.

The rush to establish new high school architecture departments from the late Taishō to the early Shōwa period was partly due to demand from the industrial side, as the rise of the industry after World War I led to a shortage of architectural engineers, but it should not be overlooked that there was also an aspect of responding to the people's strong desire for higher education. It is also important to note the strong passion for higher education among the population. Numbers of higher schools specializing in higher education in engineering were established from the late Meiji Period to the early Shōwa Period, mainly

²⁸ In 1837, Isaac Pitman, an Englishman, introduced a practical method of shorthand, which was an improvement on conventional shorthand.

in industrial districts, some of which had a department of architecture by the beginning of the Shōwa Period and were later promoted to university status. However, as seen in the list of the schools, most of such schools were located only in big industrial cities, and there were virtually no such architecture schools in Northern Japan or in the west of Hyogo Prefecture. It should have inevitably limited the chance for those interested in architecture to learn about advanced architecture and building technology.

2.2 The Beginnings of Modern Architectural Education in Japan

This section describes the origin of architectural education in the Meiji Period (the University of Tokyo), and the next section will summarize the general history of architectural education at the ten schools that developed from the end of the Taishō Period to the beginning of the Shōwa Period. They are Kogakuin(now, Kogakuin University), Tokyo Institute of Technology, Tokyo School of Arts(now, Tokyo University of Arts), Fukui Higher Technical School(now, Fukui University, School of Engineering), Kobe Higher Technical School(now, Kobe University, School of Engineering), Tokyo Higher School of Arts and Design(now, Chiba University, School of Engineering), Nagoya Higher Technical School(now, Nagoya Institute of Technology), and Kyoto Imperial University(now Kyoto University), and Nihon University.

2.2.1 The establishment of the University of Tokyo

The earliest architectural education institution in Japan was the Department of Architecture, established in 1873 (Meiji 6th) by the Engineering Ministration School²⁹, which was renamed the Imperial College of Engineering in 1877 (Meiji 10th). On December 12th, 1885 (Meiji 18th), the Ministry of Industry (Kōbushō)³⁰ was abolished, and the Imperial College of Engineering under the jurisdiction of the Ministry was transferred to the Ministry of Education. On March 2nd, 1886 (Meiji 19th), the Imperial College of Engineering was combined with the University of Tokyo's Faculty of Arts and Crafts to form the Imperial University's College of Technology. The Department of Architecture was also becoming a part of the Imperial University's College of Technology, leading to significant changes during the study.

The articles of the “Imperial University Edict ³¹” were written by the then Minister of Education himself, Arinori MORI. The first article stipulates, “*The purpose of the Imperial University is to teach and study academic skills and techniques that are essential to the nation.*”, which means that the University of Tokyo is a research institution for the highest academic skills and technical education. In order to achieve this purpose, the second article stipulates, “*The Imperial University shall consist of graduate schools and sub-universities. The graduate school shall study the depth of knowledge of science and technology, and the sub-universities shall teach theory and application of science and technology.*”, the third article stipulates, “*Those who*

²⁹ 工学寮工学校: the Engineering Ministration School

³⁰ The Ministry of Public Works (工部省, Kōbushō) was a cabinet-level ministry in the Daijō-kan system of government of the Meiji Period Empire of Japan from 1870-1885.

³¹ 帝国大学令: Imperial University Edict

have completed the sub-university and passed the standardized examinations will receive a graduation certificate.”, and the fourth article stipulates “Students of sub-universities or those with equivalent academic ability who enter graduate schools to study the depths of academic skills and techniques, and who pass standardized examinations, shall be awarded degrees.”.

Subsequent institutions of higher engineering education include the Tokyo Workers’ School in 1881 (Meiji 14th), the Tokyo Senmon Gakko in 1882 (Meiji 15th), and the Kyoto Imperial University³² in 1897 (Meiji 30th). Still, none of these schools had a Department of Architecture. Therefore, it can be said that architectural education in the Meiji Period depended mainly on the University of Tokyo.

³² 京都帝国大学: the Kyoto Imperial University

2.2.2 The Architectural education in different periods at the University of Tokyo

(1) Architectural Education at the Imperial College of Engineering

In Mayumi TSUNODA's doctoral dissertation "*Acceptance of knowledge and technology in architectural studies during the Meiji Period*", she summarized the educational curriculum of the Imperial College of Engineering, the first and second year of which is the general studies of primary engineering education. During this period, lectures and internships are held throughout the academic year, focusing on mathematics, English, natural philosophy, and drawing.

From the third year, classes are divided into specialities. Only geology and higher mathematics are listed in the timetable. Still, other subjects such as structures, surveying, geology and lithology, and mineralogy are listed in the "engineering class and office" as common subjects. It can be seen that lectures for several departments were held in the "engineering class and office" as common earth science subjects. In the fourth year, all the time was devoted to the architectural drawing office, and in the fifth and sixth years, there was no time schedule, and it is thought that practical training and lectures were conducted according to the situation. Josiah CONDER had arrived at the College of Engineering in 1877 (Meiji 10th), and all the lectures on architecture that NAKAMURA took from his third year were taught by CONDER.

In the fourth year, all the time was devoted to the architectural drawing office, and in the fifth and sixth years, there was no time schedule, and it is thought that practical training and lectures were conducted according to the situation.

(2) Architectural Education at the Imperial University's College of Technology

During the time of the Imperial College of Engineering, Josiah CONDER was in charge of all education in the Department of Architecture. However, with the establishment of the Imperial University's College of Technology in 1886 (Meiji 19th), the dean of Department of Architecture, as well as other departments, switched from foreigners to Japanese professors.

In April 1886 (Meiji 19th), Kingo TATSUNO³³ became a professor. Noriyuki KOJIMA, who had been a professor at the University of Tokyo's Faculty of Science, was appointed as a professor at the University of Tokyo's Preparatory Department in March 1886 (Meiji 19th) and served at the University of Technology. In April of the same

³³ Tatsuno Kingo (辰野 金吾, October 13, 1854 – 25 March 1919) was the former dean of Architecture Department at Tokyo Imperial University.

year, he was appointed to the Department of Mathematical of the First Higher Secondary School and concurrently to the Department of Engineering; he also became a professor on October 6th, 1888 (Meiji 21st). On October 15th, 1888 (Meiji 21st), Tōkuma KATAYAMA became a lecturer of Zokagaku (architecture and drawing). From May 19th, 1888 (Meiji 21st), to January 19th, 1889 (Meiji 22nd), Sachihito SOYAMA became an assistant professor, and other efforts were made to recruit human resources in the early years of the university. In the meantime, Hisashi MATSUOKA was appointed as a lecturer on November 10th, 1892 (Meiji 25th), and Kiyoyoshi KIKO was appointed as a lecturer on January 29th, 1889 (Meiji 22nd).

On September 7th, 1893 (Meiji 26th), the types and number of courses in the subordinate departments of the University were promulgated and became effective on September 11th, and the course system of the University was established.

2.2.3 Differences between architectural education at the University of Tokyo and previous architectural education

(1) The apprenticeship system was abandoned

The advantage of the master-apprentice system is to teach by example. For a long time, the construction industry has been influenced by the feudal teacher-apprentice system, in which a teacher gradually passed on the theory and practical experience to students. On the other hand, university education began to enable multiple teachers to teach in different disciplines, specializing in various fields of study. Both theoretical and design courses are taught by architects with professional knowledge. Since different teachers have their own teaching styles, students can learn by combining each teacher's strengths.

(2) Dismantling of sub-disciplinary knowledge

Compared to the previous apprenticeship system, university architecture education has a shorter teaching cycle, with studies taking place within a prescribed four-to-five-year period. Knowledge is also no longer learned through implicit learning but is systematically and purposefully imparted to students. In terms of content, university education began to use subcomponent learning, separating theoretical classes from design training, offering broader theoretical courses in art, construction techniques, etc., and dismantling knowledge. This period of architectural education shifted from one in which students were expected to comprehend to one in which knowledge could be taught. However, while this made knowledge teachable, the practical phase became weaker than before.

(3) Disengagement from practice

Compared to the previous apprenticeship system, university architecture education lacks a connection to practice. Previously, students' skills were acquired by following teachers in real projects, and theoretical knowledge was taught in the process of the projects. The teaching design of university education, on the other hand, is more about drawing design, emphasizing rendering and other presentation techniques, and is not integrated with actual projects in the first few years of study. Such curriculum design stays on the paper and lacks the grasp of architectural space and construction knowledge.

Keiichi SHIMIZU also mentioned in his dissertation that architectural education in the Meiji Period had a disconnect between design courses and engineering practice. This situation inevitably ushered in the industrial education of the Taishō Period and Shōwa Period, which emphasized training as the main focus.

2.3 The System of Japanese Architectural Education in the early Shōwa Period

The following is a chronological list during this period.

Table 2.1 History of the state and private universities regarding the Department of Architecture.

<p>Kogakuin Now, Kogakuin University, 工学院大学 (Private University)</p> <p>1887 (Koshugakkou, The Department of Zouka was established in 1887, and renamed <u>the Department of Architecture in 1904</u>) (工手学校設立、設立者に渡辺洪基、辰野金吾、片山東熊ら、「造家科」)</p> <p>1944 (Kogakuin Technical College under the Vocational Schools Edict) (専門学校令による工学院工業専門学校)</p> <p>1949 (Newly established university: Kogakuin University) (新制大学: 工学院大学)</p>
<p>Tokyo Technical School Now, Tokyo Institute of Technology, 東京工業大学 (Private University)</p> <p>1901 (Tokyo Technical School was renamed Tokyo Higher Technical School, and <u>the Department of Architecture was established in 1902</u>) (東京工業学校を東京高等工業学校に改称、翌 1902 年に建築科設置)</p> <p>1929 (Tokyo Institute of Technology) (東京工業大学)</p> <p>1949 (Newly established university: Tokyo Institute of Technology) (新制大学: 東京工業大学)</p>
<p>Kyoto Higher Technical School Now, Kyoto Institute of Technology, 京都工芸繊維大学 (State University)</p> <p>1902 (Kyoto Higher Technical School, architecture studio established in the Department of Design) (京都高等工芸学校)</p> <p>1944 (renamed: Kyoto Technical College) (改称: 京都工業専門学校)</p> <p>1949 (Newly established university: Kyoto Institute of Technology, Department of Architecture and Crafts) (新制大学: 京都工芸繊維大学)</p>
<p>Tokyo School of Arts Now, Tokyo University of the Arts, 東京藝術大学(建築) (State University)</p> <p>1887 (Tokyo School of Arts) (東京美術学校)</p> <p>1902 (<u>Establishment of the Architecture Studio in the Department of Design of the Tokyo School of Arts</u>) (東京美術学校に図案科建築教室設置)</p> <p>1923 (Establishment of the Department of Architecture at the Tokyo School of Arts) (東京美術学校に建築科設置)</p> <p>1949 (Newly established university: Tokyo University of the Arts) (新制大学: 東京芸術大学)</p>
<p>Nagoya Higher Technical School Now, Nagoya Institute of Technology, 名古屋工業大学 (State University)</p> <p>1905 (Nagoya Higher Technical School, and <u>architectural course was established in 1905</u>) (名古屋高等工業学校、建築科設置)</p> <p>1939 (Renamed to Department of Architecture) (改称: 建築学科)</p> <p>1949 (Newly established university: Nagoya Institute of Technology) (新制大学: 名古屋工業大学)</p>

<p>Yokohama Higher Technical School Now, Yokohama National University, 横浜国立大学工学部 (State University) 1920 (Yokohama Higher Technical School) (横浜高等工業学校) 1925 (The Department of Architecture of Yokohama Higher Technical School) (横浜高等工業学校建築学科) 1944 (renamed: Yokohama Technical College) (改称: 横浜工業専門学校) 1949(Newly established university: Yokohama National University) (新制大学: 横浜国立大学)</p>
<p>Fukui Higher Technical School (now University of Fukui) Now, University of Fukui, 福井大学 (State University) 1923 (The Department of Architecture of Fukui Higher Technical School) (福井高等工業学校、建築科) 1944 (Renamed: Fukui Technical College) (改称: 福井工業専門学校) 1949 (Newly established university: University of Fukui) (新制大学: 福井大学)</p>
<p>Kobe Higher Technical School Now, Kobe University, 神戸大学 (State University) 1921 (Kobe Higher Technical School, The Department of Architecture) (神戸高等工業学校、建築科) 1944 (Renamed: Kobe Technical College) (改称: 神戸工業専門学校) 1949 (Newly established university: Kobe University) (新制大学: 神戸大学)</p>
<p>Tokyo High School of Arts and Design Now, Chiba University, School of Engineering, 千葉大学 (State University) 1924 (Establishment of the Department of Architecture at the Tokyo High School of Arts and Design) (東京高等工藝学校に建築科設置) 1944 (renamed: Tokyo Technical Senmon School) (改称: 東京工業専門学校) 1949 (Newly established university: Chiba University) (新制大学: 千葉大学)</p>
<p>Kyoto Imperial University Now, Kyoto University, 京都大学 (State University) 1897 (Established) (京都帝国大学) 1920 (Establishment of the Department of Architecture) (建築科設置) 1949 (Newly established university: Kyoto University) (新制大学: 京都大学)</p>
<p>Nihon University Now, Nihon University, 日本大学, (Private University) 1920 (Establishment of Nihon University High School of Engineering, <u>Department of Civil Engineering and Architecture</u>) (日本大学高等工学校設置、土木科、建築科) 1928 (Establishment of the Faculty of Engineering, Nihon University) (日本大学工学部設置) 1949 (Newly established university: Nihon University, Faculty of Science and Technology, Faculty of Engineering) (新制大学: 日本大学理工学部、工学部)</p>

· The light grey part showed when the department of architecture was established under the educational system before the newly established university, while the dark grey part indicates that the department of architecture became university-educated with the establishment of the newly established university.

2.3.1 Tokyo Industrial School (now Tokyo Institute of Technology)

Table 2.2 Name change of Tokyo Institute of Technology.

Time	Name
1881 (Meiji 14 th)	Tokyo Industrial School 東京職工学校
1890 (Meiji 23 rd)	Tokyo Technical School 東京工業学校
1901 (Meiji 34 th)	Tokyo Higher Technical School 東京高等工業学校
1929 (Shōwa 4 th)	Tokyo Institute of Technology 東京工業大学

The predecessor of Tokyo Technical School dates back to the Tokyo Industrial School, which was founded in 1881 (Meiji 14th), but the Tokyo Industrial School did not have a department related to architecture. Tokyo Industrial School was renamed Tokyo Technical School in 1890 (Meiji 23rd).

In June 1894 (Meiji 27th), according to the Ministry of Education Edict No. 12 (*Industrial Teacher Training Course*³⁴), an industrial teacher training school³⁵ was established under the control of the head of the Tokyo Technical School, and the Department of Woodworking was established.

According to Edict No. 99, the Tokyo Technical School became Tokyo Higher Technical School in May 1901 (Meiji 34th), and the Department of Woodworking was renamed the Department of Architecture in December 1902 (Meiji 35th) and began to recruit students and teach them in April 1907 (Meiji 40th).

The school building was completely destroyed by the Great Kanto Earthquake in September 1923 (Taishō 12th) and moved to Ōokayama from Kuramae in 1929 (Taishō 13th). In April 1929 (Shōwa 4th), it was promoted to Tokyo Institute of Technology under the official system of Eddy No. 36 National Institute of Technology, and the Department of Architecture was established.

Both the Department of Architecture in Tokyo Higher Technical School and the Department of Architecture in the industrial teacher training school mentioned above are survived by Tokyo Institute of Technology the Department of Architecture and maintained its name until the last of the pre-promotion students graduated.

³⁴ 工業教員養成課程: Industrial Teacher Training Course

³⁵ 工業教員養成所: Industrial Teacher Training School

Additionally, according to the Tokyo Institute of Technology list, the Department of Woodworking, an industrial teacher training centre, was first established as a department related to architecture in 1894 (Meiji 27th), aimed at “teaching the necessary science and technology for those engaged in architectural education.”

2.3.2 Tokyo School of Arts (now Tokyo University of the Arts)

The Tokyo School of Arts (東京美術学校) was inaugurated in 1887 and started to enroll students in February 1889 as a five-year art school assuming high school graduates for the admission. Initially, the school planned to offer only four courses of study: Japanese(traditional) painting, wood carving, metal engraving, and lacquer crafting, leaving the establishment of the courses for Western painting and Design in 1896.

When the Tokyo School of Arts was established in 1887, it intended to offer a course in architecture. In 1896, when the regulations of the Tokyo School of Arts were revised, it decided to establish the Department of “Zuan” (図按³⁶ now, design) and the Department of Architecture (建築科), but the Department of Architecture was not to be offered for the time being.

In the 1897 (Meiji 30th), the Department of Architecture was separated from the Department of Japanese Painting and the Department of Sculpture, and the Department of Architecture was combined with the Department of New Designs and the Department of Architectural Decoration.

In 1899, the Department of “Zuan” was established at Tokyo Technical School (東京工業学校), now, Tokyo Institute of Technology). The Tokyo Technical School later became the Tokyo Higher Technical School (東京高等工業学校).

In 1902 (Meiji 32nd), the Department of “Zuan” was divided into two classes, one for crafts and the other for architecture and decoration.

As discussed in the previous section 2.3.1, in 1899, the Department of Industrial Design (工業図案³⁷科) was established at Tokyo Technical School (東京工業学校). The Tokyo Technical School later became the Tokyo Higher Technical School (東京高等工業学校). However, in 1914, it was decided that “Zuan” was better suited to an art school, and the Department of Industrial Design of the Tokyo Higher Technical School was abolished,

³⁶ The word “Zuan” is thought to mean “design”. “Zuan” was decided after unifying the various views of the instructors who were involved in the establishment of the school, some of whom had a background in Chinese-studies and some of whom had studied in Europe before returning to Japan. The word “an” has the meaning of “to consider”.

³⁷ In September 1914, according to the Ministry of Education Ordinance No.28, the Tokyo School of Arts, Department of Design (from this time, “Zuan”図按 was changed to “Zuan” 図案) was established.

and the teaching staff and students were transferred to the Tokyo School of Arts (東京美術学校). Unfortunately, “Industrial Design” did not fit in well with the art school and dissatisfaction grew.

In 1919, Hisashi MATSUOKA³⁸ and other graduates of the Department of Industrial Design the Tokyo Higher Technical School succeeded in gaining approval for the establishment of the Tokyo Higher School of Arts and Crafts (東京高等工芸学校), independent of the Tokyo School of Arts, under the Ministry of Education’s policy of expanding higher technical schools.

In 1921, the Tokyo School of Arts and Crafts was established, with Hisashi MATSUOKA as its headmaster (after the war, it became part of the Faculty of Engineering of Chiba University).

In 1923, the second part of the Department of Design was approved as the Department of Architecture by the Ministry of Education, and the Department of Architecture became independent in 1923.

In 1948, when the school system was reformed, there was a difference of opinion between those who thought that Tokyo University of the Arts should become a five-year school for the education of artists and those who thought that it should become a four-year university for the education of art researchers. In 1949, the school was merged with the Tokyo College of Music to form the new system of the Tokyo University of the Arts (東京芸術大学).

³⁸ Hisashi MATSUOKA (松岡寿 March 5th, 1862 - April 28th, 1944) was a Japanese Western-style painter and art educator.

2.3.3 Yokohama Higher Technical School (now Yokohama National University)

In January 1920 (Taishō 9th), the establishment of the Yokohama Higher Technical School (横浜高等工業学校) was promulgated by Imperial Edict No. 15, which revised the official system of schools. In April of the same year, classes began in the Departments of Mechanical Engineering, Applied Chemistry and Electrical Chemistry.

In September 1923 (Taishō 12th), in connection with the reconstruction from the Great East Japan Earthquake, the Yokohama Higher Technical School (横浜高等工業学校) was requested to add two new departments, Civil Engineering and Architecture, which were accepted.

The Department of Architecture of Yokohama Higher Technical School (横浜高等工業学校) was established in 1925 (Taishō 14th), except that the name of the school was changed to Yokohama Technical College (横浜工業専門学校) in 1944 (Shōwa 19th), and it will be newly established as the Department of Architecture of the Faculty of Engineering of the new Yokohama National University (横浜国立大学) in May 1949 (Shōwa 25th).

At the time when Junpei NAKAMURA³⁹ was appointed as the first head of the Department of Architecture at Yokohama Higher Technical School (横浜高等工業学校), Japan's architectural world was gradually moving away from the eclecticism of the past and toward a movement to create modern architecture. After the Meiji Period, the architectural activities also led to the establishment of the architect's profession. At the same time, however, structural and earthquake-resistant engineering by Toshikata SANO⁴⁰ was rapidly popularized in the wave of industrial development after World War I and disaster reconstruction after the Great Kanto Earthquake. In Japan, as is well known, architecture departments in universities and high schools were not established for the purpose of educating "architects". From the beginning, the profession of "architect" was understood as a practical engineer, and it also had the role of guiding and fostering the development of building materials, so the education of people with a broad knowledge of structural technology, architectural practice, and architectural art was the education of architecture. Once a Department of Architecture was established, the rails for its teaching and content were set in advance and could not be easily altered. Therefore, in the technical

³⁹ Junpei NAKAMURA (中村 順平, August 29th, 1887 - May 24th, 1977) was a Japanese architect. He was an architectural educator.

⁴⁰ Toshikata SANO (佐野利器, April 11th, 1880 – December 5th, 1956) was a Japanese architect and structural engineer. He was a professor at Tokyo Imperial University, Nihon University. He contributed to the development of structural science in Japan by focusing on architecture as engineering rather than as art, especially on earthquake-resistant engineering.

schools that trained mid-career engineers, the aim was to teach the three higher academic skills to those who were to be engaged in industry, in accordance with the Industrial School Ordinance and the Technical School Ordinance, and the education of architecture as an industrial technology was followed as a guideline in general technical schools.

2.3.4 Fukui Higher Technical School (now University of Fukui)

The Department of Architecture was established at the same time as the Fukui Higher Technical School (福井高等工業学校) was established in April 1923, along with other two departments: the Department of Mechanical Engineering and the Department of Textile Industry. Among the three technical high schools established in the snowy Japan-Sea district at the similar period (others were in Kanazawa and Nagaoka), it was the only one featuring higher education in architecture and building engineering. The establishment of departments for the architecture and textile industry at Fukui instead of electrical engineering or chemical engineering, most common at other higher technical schools, suggests unique characteristics of this school which could be a reflection of the demand of the local industry.

In April 1944, Fukui Higher Technical School (福井高等工業学校) was renamed Fukui Technical College (福井工業専門学校). In May 1949, it was newly established as the Department of Architecture, Faculty of Engineering, University of Fukui (福井大学).

2.3.5 Kobe Higher Technical School (now Kobe University)

On December 9th, 1921, Imperial Edict No. 456 was promulgated to add the Kobe Higher Technical School (神戸高等工業学校) to the governmental system.

The Kobe Higher Technical School was initially established in 1921 with three departments, architecture, mechanical engineering, and electrical engineering. Among national universities and higher technical schools established in the Osaka-Bay District by then (others are Osaka University, Osaka Higher Technical School, and Tokushima Higher Technical School), it was the only school featuring the department of architecture.

It was renamed to Kobe Technical College (神戸工業専門学校), and then in 1949, through the newly established university, named Kobe University (神戸大学).

2.3.6 Tokyo High School of Arts and Design (now Chiba University)

The school was founded on December 9th, 1921 as the Tokyo High School of Arts and Design (東京高等工藝学校).

The school's intention was not only to seek higher education in purely industrial fields, or to specialize in purely artistic fields, but also to develop fields that were intermediate between these two, in other words, fields that could be regarded as production crafts. With the intensification of the Second World War, the Department of Arts and Crafts and its affiliated Molding Department were reorganized into the Department of Architecture, which was the closest in character to an engineering department. At this time, the name of the school was changed to the Tokyo Technical Senmon School (東京工業専門学校).

2.3.7 Nagoya Higher Technical School (now Nagoya Institute of Technology)

The Department of Architecture (now the Department of Architecture and Design) at Nagoya Institute of Technology was the second governmental institution of higher education in architecture in Japan after the University of Tokyo. Although the educational system has undergone many changes over the years, many of the graduates who received their education at the school have made significant contributions to the development of modern Japanese architectural culture and architecture in a wide range of fields in industry, government, and academia.

On March 28th, 1905 (Meiji 38th), the Nagoya Higher Technical School was established by Imperial Edict No. 98, and on September 1st, 1905 (Meiji 38th), the first entrance ceremony was held, and classes began. The number of students enrolled in the first architectural course was 20, but by the time they graduated three years later, the number had been reduced to 16. The first instructor of the Architecture Department was an engineer (who graduated from the University of Tokyo in 1897). The following year, on June 27th, 1906 (Meiji 39th), Teiji SUZUKI, a Bachelor of Engineering who had returned to Japan from studying in Europe (graduated from the University of Tokyo in 1896), was appointed as the first professor of the Department of Architecture, and he served as the head of the Department of Architecture for about one year until the end of March 1907 (Meiji 40th). In addition, Teiji SUZUKI was an assistant professor from the beginning of the school (until 1909) and taught design. The year after Teiji SUZUKI arrived, Professor Jun'ichi TSUCHIYA (who graduated from the University of Tokyo in 1900), who later became head of the department and principal, was assigned to the school and taught mainly history.

Jun'ichi TSUCHIYA graduated from the Department of Architecture at the University of Tokyo in 1900 (Meiji 33rd) and was dispatched by the university to investigate the architecture of the Imperial Palace in Beijing, Qing Dynasty, together with Chūta ITŌ in 1901 (Meiji 34th). In 1902 (Meiji 35th), he became an engineer in Nara Prefecture, and served as a member of the Nara Prefectural Board of Education, etc. In 1903 (Meiji 36th), he was appointed as the technical director of the Office for the Repair of Ancient Shrines and Temples, where he supervised the repair of many shrines and temples, including the Central Gate of Horyuji Temple and Daibutsu-Den in Tōdai-Ji. In 1907 (Meiji 40th), he was appointed as a lecturer in the Department of Architecture and became a professor the same year. From 1910 (Meiji 43rd), he studied in England, France, and the United States for three years. Jun'ichi TSUCHIYA taught the history of Japanese and Western architecture, design methods, ornamentation, and building materials at Nagoya Institute of Technology, and was famous for his research on castles. In 1921 (Taishō 10th), he

became the head of the Department of Architecture at Nagoya High School, and from 1933 (Shōwa 8th) to 1939 (Shōwa 14th), he served as the principal of Nagoya Institute of Technology.

2.3.8 Kyoto Imperial University (now Kyoto University)

In 1919 (Taishō 8th), the decision was made to establish a new Department of Architecture in the Faculty of Engineering of Kyoto University; in May of the same year, Tadahiko HIBI, professor of the Faculty of Engineering, and Goichi TAKEDA, principal of the Nagoya Institute of Technology, were commissioned to serve on the committee for the establishment of the department.

In this way, the Department of Architecture and Planning was established in August 1920 (Taishō 9th). At the time of the establishment of the Department, it consisted of the first lecture (*Building Structures*), the second lecture (*Construction Planning*), and the third lecture (*Architectural History*), followed by the fourth course (*Building Equipment*) in 1921 (Taishō 10th).

Table 2.3 Architecture lectures at Kyoto University during the founding period.

Year	Lecture	First Generation Professor
August 1920 (Taishō 9 th)	Lecture 1: Building Structures 第1講座：建築構造学	Tadahiko HIBI 日比忠彦
	Lecture 2: Construction Plan 第2講座：建築計画	Goichi TAKEDA 武田五一
	Lecture 3: Architecture History 第3講座：建築史	Shinichi AMAMUMA 天沼俊一
April 1921 (Taishō 10 th)	Lecture 4: Building Equipment 第4講座：建築設備	Seiichi OI 大井清一
April 1950 (Shōwa 25 th)	Lecture 5: Building Construction 第5講座：建築施工	Ryou TANABASHI 棚橋 諒
April 1963 (Shōwa 38 th)	Lectures on Architectural Design 建築意匠学講座	Tomoya MASUDA 増田友也
April 1964 (Shōwa 39 th)	Creation of the Second Department of Architecture 建築学第二学科	-
	Lecture on Building Materials 建築材料学講座	-
April 1965 (Shōwa 40 th)	Lecture on Built Environment 建築環境学講座	Tomoya MASUDA 増田友也
	Lecture on the Structure of Iron 鉄骨構造学講座	Kiyoshi KANETA 金多 潔
	Lecture on Regional Living Space Project 地域生活空間計画講座	Uzō NISHIYAMA 西山 外三
April 1966 (Shōwa 41 st)	Lecture on Basic Architectural Engineering 建築基礎工学講座	-
	Department of Reinforced Concrete Structures established. 鉄筋コンクリート構造学講座	Hiroshi MUGURUMA 六車 熙
April 1967 (Shōwa 42 nd)	Lecture on Building Environmental Adjustment 建築環境調整学講座	Saburō HORIUCHI 堀内 三郎
	Architectural Design Lecture 建築施設計画講座	Kunio MATSUURA 松浦 邦男

The first lecture was taught by Tadahiko HIBI, who devoted himself to the application of reinforced concrete and steel structures to building construction, but he passed away in June 1921 (Taishō 10th).

In the second lecture, Goichi TAKEDA took charge of this lecture from September 1920 (Taishō 9th) to September 1932 (Shōwa 7th) and established the foundation of this lecture. In April 1934 (Shōwa 9th), Keiichi MORITA continued to teach the lecture until April 1933 (Shōwa 8th). In the beginning, this course dealt mainly with issues related to architectural design and planning, but in the 1950s, it gradually expanded to include not only design but also comprehensive planning of buildings.

The third lecture was initially taught by Shunichi AMANUMA, but from April 1921 (Taishō 10th) to May 1923 (Taishō 12th), while Assistant Professor AMANUMA was on

a business trip abroad, Goichi TAKEDA of the second lecture concurrently taught this lecture, and lecturers Seigo HONNO, Ryonoshin SAKATANI, and Minoru KOJIDA gave lectures. Tadashi SEKINO, a professor at the University of Tokyo, also lectured on the history of Korean architecture and the history of Chinese architecture.

The fourth course was established in April 1921 (Taishō 10th). In the beginning, Seiichi OI of the Department of Mechanical Engineering was concurrently in charge of this course, and Atsushi FUJII took control in October of the same year.

In 1945 (Shōwa 20th), the long war ended with the defeat, and the necessity of broader research and education in architecture was strongly recognized for the reconstruction of the land devastated by the war and the settlement of the people's lives. The construction and expansion of classrooms began immediately, and the fifth course (Building Construction) was established in April 1950 (Shōwa 25th), and Professor Ryou TANABASHI has been in charge of it.

The Lecture of *Architectural Design* was newly established in April 1963 (Shōwa 38th), the Lecture of *Building Materials* was newly established in April 1964 (Shōwa 39th), and the Lecture of *Built Environment* was newly established in April 1965 (Shōwa 40th). In commemoration of the achievements of Professor Shizuo BAN, the Department of Structural Engineering was established.

2.3.9 Kyoto Higher Technical School (now Kyoto Institute of Technology)

Kyoto Higher Technical School was established in 1902 with the three departments, design, colour dying and weaving, and admitted the first students in 1903 based on the Vocational School Edict. Being established at a relatively early stage of the industrial revolution in Japan in the district with a rich heritage of traditional manufacturing, the role of the school was originally supposed to support the promotion and the modernization of the local industry; its philosophy still remains in the current Japanese name of the university, University of Arts, Craft and Textile(京都工芸繊維大学). Education in architecture was initiated by Goichi TAKEDA, the first professor in the Department of Design, and was activated by the inclusion of Seigo HONNO into the faculty in 1908. Takeda and Hoono were important in the introduction and practice of the European modern architectural design in Japan; it is essential to note that this school became the first higher school offering modern architecture in Kyoto before the establishment of the department of architecture at Kyoto University.

2.3.10 Kogakuin (now Kogakuin University)

Kogakuin University began as a school for engineers under the name of “*Koshugakko*” (工手学校)⁴¹ in February 1888 (Meiji 21st) and was renamed Kogakuin (工学院)⁴² in July 1928 (Shōwa 3rd), Kogakuin Technical College (工学院工業専門学校)⁴³ in April 1944 (Shōwa 19th), and Kogakuin University in April 1949 (Shōwa 24th). The purpose of the school was to train engineers to assist engineers who had graduated from universities such as the University of Tokyo and Tokyo Polytechnic Institute (the predecessor of the Japan Federation of Engineering Societies⁴⁴). Two professors of architecture, Kingo TATSUNO and Jukichi FUJIMOTO, were among the 14 founders of the school. Although it was a private school, it had a strong sense of being affiliated with the University of Tokyo and was characterized by its night schooling.

The meaning of the term “*Koshu*”, a part of the original name of the school generally translated as “*engineer*” is not always clear, but it was thought to be a “subordinate official who helps the general and guides the graduate⁴⁵” (as stated in the address by Chief Superintendent WATANABE), a role between the engineer and the engineer, and a foreman who should assist the engineer.

The school had eight departments: Civil Engineering, Mechanics, Electrical Engineering, Construction, Shipbuilding, Mining, Metallurgy, and Manufacturing (applied chemistry). In September 1903 (Meiji 36th), the Department of *Zouka* was renamed the Department of Architecture, and in February 1904 (Meiji 37th), the main lecture (one year) was extended to one and a half years to include mathematics, physics, and applied mechanics.

From the middle of the Meiji Period to the Taishō Period, the Department of Architecture continued to provide a practical education to train working people to become mid-level engineers, meeting the expectations of the industrial world.

From the end of the Taishō Period to the beginning of the Shōwa Period, the severe economic depression and the Great Kanto Earthquake combined to bring about a difficult time for the school. In response to the needs of the times, the qualifications for admission

⁴¹ 工手学校 : School for engineers

⁴² 工学院: Kogakuin

⁴³ 工学院工業専門学校: Kogakuin Technical College

⁴⁴ 工学会: The Japan Federation of Engineering Societies (JFES) was founded in 1879 as the first engineering organization in Japan. With some 100 engineering societies today, including several scientific ones, it promotes the advancement of engineering and industry through the cooperation of its members.

⁴⁵ 将を助け,卒を導く下士官

to the preparatory lecture were raised to a minimum of graduation from a high school in 1919 (Taishō 8th). In July 1921 (Taishō 10th), an advanced lecture was established with a one-year lecture of study, following the preparatory lecture and the main lecture. Education in basic subjects such as mathematics and English, as well as specialized subjects such as earthquake-resistant structures, was also enhanced.

Since its establishment, the aim of the Kogakuin was to provide industrial technology education for young people in the evening and train high-level technicians and foremen to assist professional engineers. In 1943 (Shōwa 18th), the school's name was abolished, and it became a four-year school. In 1943 (Shōwa 18th), the names of the preparatory lecture and the main lecture were abolished, and the lecture became a four-year lecture. At this time, the Kogakuin Technical School, which had been an industrial school but had maintained its own structure, was reorganized as an industrial school (Class A). At the same time, the movement to establish industrial colleges became active. The night school, Kogakuin, continued to exist. Therefore, the Academy of Engineering had four lectures, including a special lecture (a fast-track lecture focusing on drafting). However, due to the intensification of the war and the mobilization of labour, actual education was not sufficiently provided, and the newly established school produced its first graduates in 1947 (Shōwa 22nd).

In 1949 (Shōwa 24th), Kogakuin University was established. The management's intention to maintain the traditional night-time education that had been offered since the 1970s was significantly changed by the strong and enthusiastic efforts of current students of the Kogakuin Alumni Association⁴⁶, resulting in the birth of one of the few single-department technical universities in Japan.

⁴⁶ 工学院同窓会: Kogakuin Alumni Association

2.3.11 Nihon University

Table 2.4 Nihon University architecture-related institutions

Education Level	Nihon University	
	Name	Establishment date (the Department of Architecture)
Universities 大学	Nihon University (the Department of Engineering) 日本大学 (工学部)	1930
Vocational Schools 専門学校	Nihon University Vocational Engineering Department 日本大学専門部工科	1929
Industrial Schools 実業学校	Nihon University Industrial School 日本大学工業学校	1929
Various Schools A 各種学校 A	Nihon University Higher Technical School 日本大学高等工学校	1920
Various Schools B 各種学校 B	Nihon University Technical School 日本大学工学校	1924

“In 1918, the Committee for the Industrial Education (「工業教育調査委員会」) was set up in the Society of Engineering Engineers, the headquarters of the engineering academy in Japan, to investigate and study the state of industrial education. As a result, it was found that the content of industrial education institutions was inadequate, and various proposals for reform were formulated, and in the following year the “Proposal for the Reform of Industrial Education” (『工業教育刷新案』) was drawn up. In the process, Toshitaka SANO, who was a director of the society and secretary of the research committee, proposed the “Higher Technical School Proposal” (「高等工学校案」).”⁴⁷

As shown in table 2.4, according to the “Higher Technical School Proposal”, in order for Japan to keep up with the development of industrial technology in the world, it is emphasized that technical education must be provided so that students can acquire technology in a short period and can serve as leaders at each factory site. Of course, it did not deny the establishment of a three-year government technical school, but it preferred to establish a technical school similar to a two-year technical school and to train technical leaders in a short period. The aims and objectives of higher technical schools is described as follows:

“Prospectus for the establishment of a High School of Technology”

1. Despite the recent development of industry, there is a lack of knowledge and skill in

⁴⁷ Nihon University. 2000. *Centennial History of Nihon University*. Tokyo: Nihon University.

this field, and the demand for engineers is as great as the desire for a justiciable rainbow in a drought, and the need for industrial education is excellent. In order to meet this demand, the University has established a High School of Engineering, which will accommodate students from junior high schools, technical schools, teachers' training colleges, and those who have the same or higher academic ability.

2. This year (the 9th year of the Taishō Period), two departments of civil engineering and architecture will be opened, and other departments will be opened in succession. The lecturers will be PhD's with a great deal of knowledge in engineering, and the teaching methods will be extremely new, so that the students should be able to acquire complete industrial expertise in the scheduled period of study.’⁴⁸

On the other hand, industrial production of new materials was finally on track in the construction industry, and there was an urgent need to learn and digest new technologies that could make full use of steel ropes, concrete and other materials. Therefore, rather than designers and architects, there was a shortage of angelic architects, which was an important social issue.

In response to this social need, Nihon University took up the idea of short-term training engineers and urged the establishment of a school.

This “Higher Engineering School”(「高等工学校」) was not established in accordance with the Vocational School Edict (専門学校令), nor was it part of the College of Engineering of Nihon University. It was a particular school attached to a university. The establishment of the school was approved in September 1920 (Taishō 9th), when the first lectures started. According to the school regulations, the school offered courses in civil engineering, architecture, mechanics, electricity, and applied chemistry, but at the time of its founding, only two courses were offered civil engineering and architecture, and the course in mechanics began in September 1921 (Taishō 10th).

The professors and lecturers were not only from the University of Tokyo but also from the Ministry of Home Affairs, the Ministry of Railways, the Ministry of Posts and Telecommunications and other leading authorities in the private sector. In addition, since the convenience of evening classes, it was filled with graduates of technical schools who were full of ambition.

⁴⁸ Toshitaka SANO.1918. “Aims and Objectives of the Higher Engineering School 「高等工学校設立趣意・要綱」 ” *Higher Technical School Proposal 『高等工学校案』*.Tokyo: Nihon University.

The school was lost in the earthquake of September 1923 (Taishō 12th), but through the dedicated efforts of the students and graduates, many graduates were involved in the reconstruction of the school after the earthquake and fire. The results of the rigorous educational policy were well received, At the request of students, a three-year post-graduation course was established, and more advanced lectures were given. The school was attracting attention as a source of first-line engineers.

In later years, following the success of this school, Waseda University and Kogakuin University also established higher engineering schools (高等工学校).

2.4 The Philosophy of Architectural Education at Waseda University

2.4.1 Architecture-related Institutions at Waseda University

In the previous subsection, it was mentioned that due to the success of the higher technical school of Nihon University, Waseda University followed suit with the establishment of a higher technical school. However, there is no research on this higher technical school. Thus the author has re-investigated the architecture-related institutions at Waseda University by combing through the *Centennial History of Waseda University* (『早稲田大学百年史』).

The orange, purple, green and blue areas in table 2.5 show the change process at Waseda University, Waseda University Vocational Engineering Department, Waseda Technical School and Waseda Higher Technical School respectively. In order to get a definitive view of how each branch of education institutions has changed, Figure 2.1 has been created based on table 2.5.

At this point, we can conclude that five educational institutions related to architectural education existed simultaneously at Waseda University in the early Shōwa Period, namely Tokyo Senmon Gakko (now, Waseda University), Waseda University Vocational Engineering Department, Waseda Technical School, Waseda Higher Technical School and Waseda Correspondence Education. The author will analyze them in the following subsections. It should be noted that the timing of architectural communication education indicated in Figure 2.1 is based on the research result after the end of the entire doctoral dissertation.

Table 2.5 The architecture-related institutions at Waseda University.

The Architecture-Related Institutions at Waseda University		
Meiji 15 th	1882. 09	Established the Tokyo Senmon Gakko 東京専門学校
Meiji 43 rd	1910. 09	Established the Department of Architecture in the Faculty of Science and Technology. 理工科の建築学科
Meiji 44 th	1911. 03	Established the Waseda Technical School 早稲田工手学校
Shōwa 3 rd	1928. 02	Established the Waseda Higher Technical School (Two-year evening course) 早稲田高等工学校、設置（夜間2年制）
Shōwa 14 th	1939. 04	Waseda University Vocational Engineering Department 早稲田大学専門部工科（建築学科3年制）
Shōwa 20 th	1945. 01	Waseda Higher Technical School--- Waseda Industrial Senmon School 早稲田高等工学校---早稲田工業専門学校
		Decided to upgrade the Waseda Technical School to an industrial school 早稲田工手学校を工業学校に昇格させることを決定
Shōwa 21 st	1946. 04	Waseda Technical School--- Waseda Industrial School (Four-year evening course) 早稲田工手学校---早稲田工業学校(夜間4年制)
Shōwa 22 nd	1947. 04	Waseda Industrial School---Waseda Higher Industrial School 早稲田工業学校---早稲田工業高等学校
Shōwa 23 rd	1948. 04	Waseda Higher Industrial School (The new four-year evening system) 早稲田工業高等学校（夜間4年制）
Shōwa 24 th	1949. 04	Newly establishment Waseda University. 新制早稲田大学
Shōwa 25 th	1950. 12	Waseda Higher Industrial School--- Waseda University Higher Industrial School 早稲田工業高等学校---早稲田大学工業高等学校
Shōwa 26 th	1951. 01	Waseda Industrial Senmon School closed 早稲田工業専門学校廃校
Shōwa 26 th	1951. 01	Waseda University Vocational Engineering Department closed 早稲田大学専門部工科廃止
Shōwa 39 th	1964. 04	Waseda University Higher Industrial School stopped recruiting students, and closed in 1968 早稲田大学工業高等学校，生徒募集を停止
Shōwa 39 th	1964. 04	Waseda University Higher Industrial School--- Industrial Technology College 夜間の各種学校---産業技術専修学校
Shōwa 53 rd	1978. 01	Industrial Technology College--- Waseda University Senmon Gaako 産業技術専修学校---早稲田大学専門学校
Heisei 13 th	2001	Waseda University Senmon Gaako ---The Art and Architecture School of Waseda University (AASchool) 早稲田大学専門学校---早稲田大学芸術学校

Chapter 2 A Brief History of Modern Architectural Education in Japan

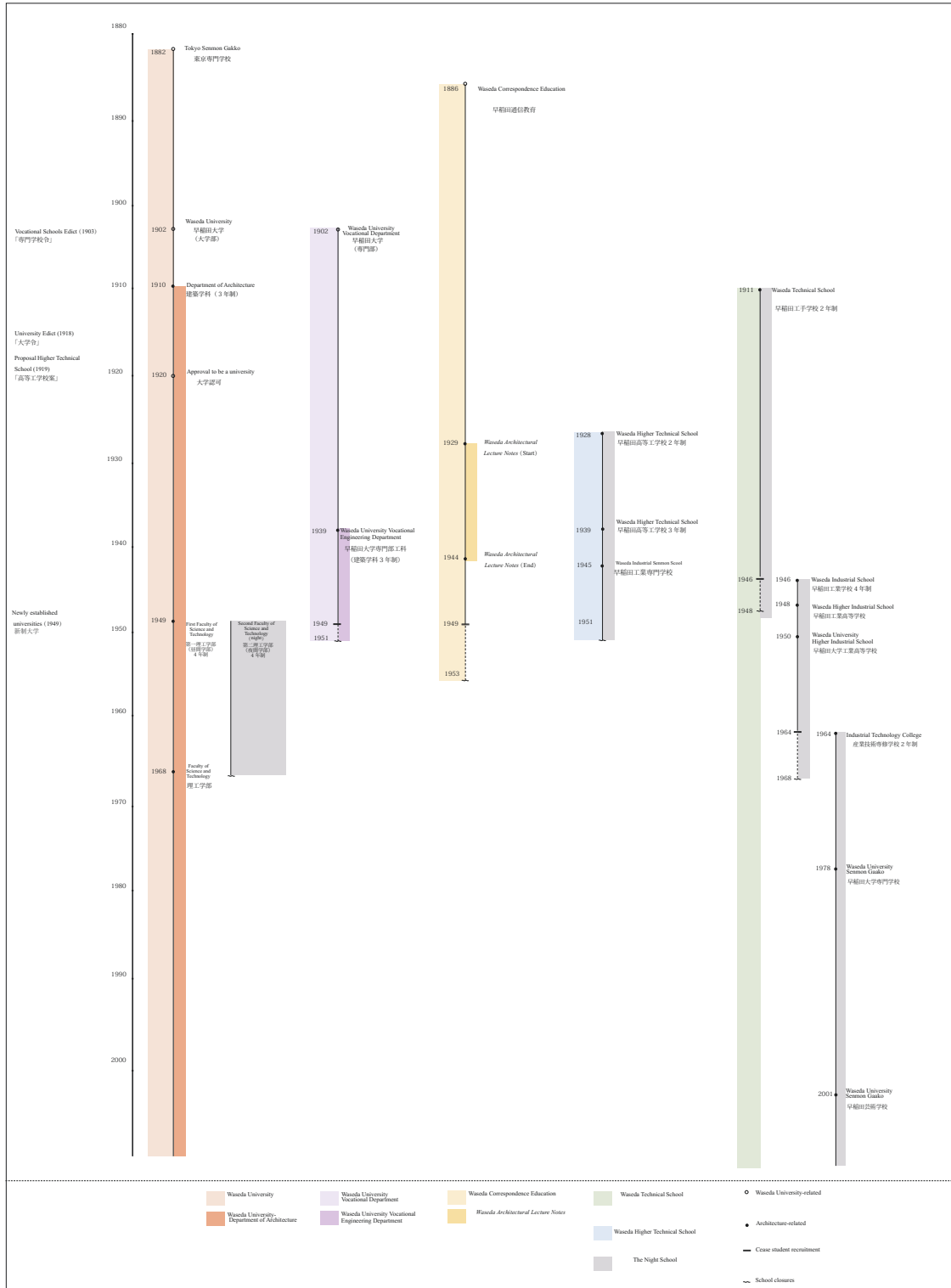


Figure 2.2 A Diagram of Waseda University Architecture-Related institutions.

2.4.2 The founding and position of the Faculty of Science and Technology at Waseda University

In October 1882 (Meiji 15th), Shigenobu ŌKUMA, as the predecessor of Waseda University (The history of Waseda University can be seen in Table 2.6), founded the Tokyo Senmon Gakko⁴⁹. The Department of Science was placed among the majors, along with political science and economics, law, and English. It was renamed Waseda University on 2nd September 1902 (Shōwa 35th), upon acquiring university status.

Table 2.6 History of Waseda University and Professional Technical Education.

History of Waseda University and Professional Technical Education		
Meiji 15 th	1882	Founded Tokyo Senmon Gakko 東京専門学校創設
Meiji 35 th	1902	Name changed to Waseda University 早稲田大学と改称
Meiji 42 nd	1909	Established the Department of Science and Engineering 理工科設置
Taishō 9 th	1920	Approval to be one university (Waseda University) 早稲田大学認可
Taishō 13 th	1924	Established Waseda Senmon Gakko 早稲田専門学校設置

The founder of Waseda University was Shigenobu ŌKUMA, but for an extended period, from the founding of Tokyo Senmon Gakko to the establishment of Waseda University, it was Sanae TAKATA⁵⁰, Kenkichi ICHISHIMA⁵¹, Shoyo TSUBOUCHI⁵², and Tameyuki AMANO⁵³, known as the “Four Honorable Professors of Waseda University”, who ran administration and office work. They were all classmates of the University of Tokyo.

As the first president of Waseda University, Sanae TAKATA mentioned the reason for the founding of the Waseda Technical School at the opening ceremony of the school in

⁴⁹ 東京専門学校: the Tokyo Senmon Gakko.

⁵⁰ Sanae TAKATA (高田早苗, April 4th, 1860 - December 3rd, 1938) was a Japanese politician, political scientist, educator and literary critic from the Meiji Period to the early Shōwa Period. He served as the first president of Waseda University.

⁵¹ Kenkichi ICHISHIMA (市島謙吉, February 17th, 1860 - April 21st, 1944) was a Japanese journalist, a cultural entrepreneur, an essayist, and the first director of Waseda University Library.

⁵² Shoyo TSUBOUCHI (坪内逍遙, June 22nd 1859 - February 28th 1935) was a Japanese novelist, critic, translator and playwright.

⁵³ Tameyuki AMANO (天野為之, February 6th, 1861 (December 27th, 1861) - March 26th, 1938) was an economist, journalist, politician, educator and doctor of law during the Meiji, Taishō and Shōwa Periods. He served as Principal of Waseda Industrial School (早稲田実業学校).

1911 (Meiji 44th). He reflected on the situation at the time and said, “*The reason why Waseda University established a science and engineering department is that Waseda University had the idea to establish a science and engineering department about 30 years ago when Tokyo Senmon Gakko was established. But at that time, the world was not so advanced, and few people paid attention to this point, and those who aspired to study were extremely rare. In addition, there were not many people who wanted to study practical subjects, so even though the school was established, it had to be stopped after a while and abortion was unavoidable.*”⁵⁴ In the above description, it can be seen that there was generally little interest in science as an academic field around 1882 (Meiji 15th).



Figure 2.3 A commemorative photo of the 70th-anniversary party.

(From left: Kenkichi ICHISHIMA, Sanae TAKATA, Shoyo TSUBOUCHI and Kazutami UKITA)

(According to the Waseda University Archives)

⁵⁴高田早苗. 1911. 「早稲田工手学校開校の趣旨」『早稲田学報』No.196: 2.

The Department of Science and Engineering (the one and a half year preliminary course in architecture, mining, mechanics, and electronics) of Waseda University was established in 1909 (Meiji 42nd). At the time of its founding, Japan had just begun its journey toward modernization. Regarding the necessity of establishing a Department of Science and Engineering, Sanae TAKATA first stated that as a comprehensive university, Waseda University should have a department of science and engineering similar to that of the University of Tokyo. And he pointed out in *“The purpose of the Waseda Technical School Establishment”* that *“Waseda University is an institution of national education, it must follow the country's policy, and the duty of education at Waseda University is to educate people who are necessary for the country”*⁵⁵.

The following is the contents that Sanae TAKATA stated at the opening ceremony of the inaugural year of the Department of Science and Engineering, in which he elaborated on his policy and the meaning of *“Practical”*.

*“I am a scholar, so I know academic principles, but I don't think they are useful in practical matters. This is the essence of this school, and if the word “practical” is misunderstood, it could be interpreted as meaning that academic principles are not important and that it is okay to be a practical person, which is not the true practical use of this school. This is the reason why we should not just learn to study or master a subject, but we should also think of a practical university as a place where we can create questions for others to answer. If possible, we want to educate graduates who will not only fulfill their vocation, but who will also go on to become useful heads of science and technology.”*⁵⁶

Sanae TAKATA's aim to train *“Practical People”* was not only to train engineers but also to train people who can *“Apply the Science”*. For this purpose, people needed deep study and research of science. These contents and remarks both showed that Waseda University was a university to educate people who are helpful in the demand of the society (*“Practical People”*), and that the studies in the Department of Science and Engineering were regarded as *“practical”* studies to meet the demand of the nation.

In conjunction with the characteristics of the University of Tokyo summarized in the previous chapter, while the University of Tokyo focused on academic education as an imperial university, Waseda University aimed at practical education to develop a wide range of *“Practical People”*. This is the significance of Waseda University's existence as

⁵⁵高田早苗. 1912. 「理工系大学院の学生諸君へ」『早稲田学報』No.206: 2-6.

⁵⁶高田早苗. 1909. 「講演会: 開会式」『早稲田学報』No.171: 13-14.

a private university.

2.4.3 The Department of Architecture at Waseda University in the emergence era

In September 1910 (Meiji 43rd), the Department of Architecture was established at Waseda University. This is the second oldest history of architectural education in Japanese universities after the Department of Architecture at the University of Tokyo, which originated from the Imperial College of Engineering in 1877 (Meiji 10th). Kingo TATSUNO, who was from the same hometown as Shigenobu ŌKUMA and was regarded as a force to be reckoned with in the architectural world at the time, was invited to be the advisor and preparations for the founding of the Architecture Department began. TATSUNO appointed his student, Kōichi SATŌ⁵⁷, as the head of the Department of Architecture.

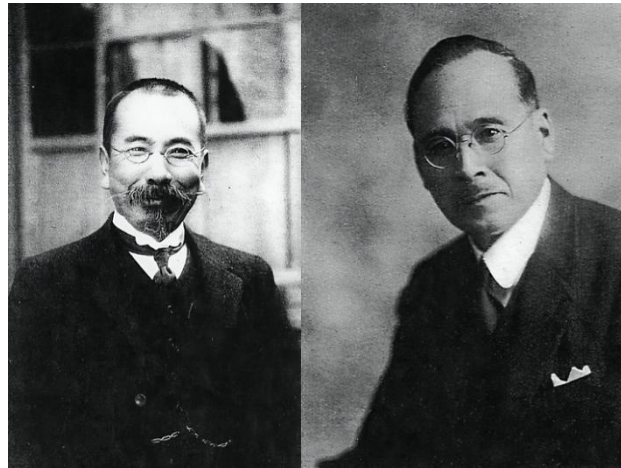


Figure 2.4 Portrait photos of Kingo TATSUNO and Kōichi SATŌ (From Wikipedia).

⁵⁷ Kōichi SATŌ (佐藤 功一, July 2, 1878 - June 22, 1941) was the founder of the Department of Architecture at Waseda University. After he became the head of the Department of Architecture at Waseda University, he laid the foundation for architectural education at Waseda University.

When SATŌ met with TAKATA for the appointment of the head of the department, TAKATA entrusted all authority to SATŌ and said, “*I will leave the Department of Architecture to you. Hope you could show your skills without hesitation.*”⁵⁸. Therefore, SATŌ was not bound by the restrictions on the composition of courses in the governmental system but was free to structure the courses considering the inherited school lanterns' orthodoxy and exercise discretion in appointing personnel for that purpose.

SATŌ described the foundation of the Department of Architecture as follows: “*Since last year, Waseda University has newly established the Department of Science and Engineering, which includes a Department of Architecture, and I was engaged in the education of this department.*” Waseda University is originally a practical university, as President TAKATA said. However, since the study of architecture should be mainly practical, the establishment of the Department of Science and Engineering at Waseda University was the most appropriate to meet the needs of the times.

SATŌ also used the word “*Practical*” as a keyword. Here again, the purpose of the founding of the Department of Architecture at Waseda University coincides with the nature of Waseda University as emphasized by TAKATA.

What is also noteworthy here is that Chūta ITŌ, then a senior professor at the University of Tokyo, probably at the request of his senior professor TATSUNO, gave full support to SATŌ as a professor of architectural history from the very beginning of the architecture history course at Waseda University.

On the occasion of the 50th anniversary of the founding of the Department of Architecture at Waseda University, the Toumon Architectural Association compiled a special issue on the founding era of the Department of Architecture in the fourth issue of its annual meeting. Professor Yasutada WATANABE, as the moderator of the annual forum, recorded the initial situation of the Department of Architecture, the professors in charge, the designs, the facilities, the contents of education, and the condition of the school building through conversations with various professors.

⁵⁸ 渡辺 保忠.1991.「早稲田大学理工学部建築学科の歴史」『早稲田建築』: 12-19



Figure 2.5 Commemorative photo on the day of the annual meeting. (Taken by Yasutada WATANABE) (Front row from left: OGAWA, IMAHASHI, NISHINO, TOKUNAGA, NAITŌ, WATANABE, SOSHIRODA, KIMOTO. Back row from left: OYA, WADA, KODERA, IMAGAWA, IWANO, KAWAI, KASAHARA, SUZUKI)⁵⁹.

First of all, the conference invited Professor Tachū NAITŌ⁶⁰, who was one of the professors at the beginning of the founding of the Department of Architecture, to describe the situation at the beginning of the establishment of the Department of Architecture.

“I came to this university in September of 1910, when the Department of Architecture was first established. When I graduated in July of that year, SANO asked me to meet SATŌ, and I think OKADA was one of the professors at that time⁶¹.”

When the professors of each department who were dispatched from Takeuchi Mining⁶² to visit Europe and the U.S. returned to Japan, they happened to find that Waseda University was going to establish a Department of Science and Engineering, so the funds,

⁵⁹ 前列左より小川、今橋、西野、徳永、内藤先生、渡辺、十代田、木元。後列左より大矢、和田、小寺、今川、岩野、河合、笠原、鈴木の各氏。(稲門建築会. 1960. 「座談会 (早稲田大学建築学科の創設)」 『稲門建築年誌』 :139.)

⁶⁰ Tachū NAITŌ (内藤 多仲, 12 June 1886 – 25 August 1970) was a Japanese architect, engineer, and professor. He was a father of earthquake-proof design and built many broadcasting and observation towers, including the Tokyo Tower.

⁶¹ 稲門建築会. 1960. 「座談会 (早稲田大学建築学科の創設)」 『稲門建築年誌』 :140

⁶² Meitarō TAKEUCHI, (竹内鋳業, founder of the Department of Science and Engineering, Waseda University) was appointed by his father in 1886 to manage the Yoshitani Coal Mine in Saga Prefecture, and established Takeuchi Mining in 1894.

teaching staffs, and others were all combined, and the department was established as a subcontractor of Takeuchi Mining with all salaries paid by Takeuchi Mining. Mechanical engineering and electrical engineering were started one year ahead of the others, while architecture, mining and metallurgy were started one year behind. Tadaoki YAMAMOTO⁶³ was the head of Electrical Engineering, and. Tsunezō NAKAGAWA⁶⁴ was the head of Mechanical Engineering. The Department of Architecture was headed by Professor Kōichi SATŌ, and the Department of Mining and Metallurgy was headed by Professor Shigeyasu TOKUNAGA⁶⁵. Other professors who were commissioned by Takeuchi Mining were Yasuyuki NAKAMURA⁶⁶, who was the head of teaching, Endo, who was the head of mechanical engineering, Satarō KOIKE, who was in charge of mining and metals, and MOTOHASHI, who was in charge of the mechanical workshop.”⁶⁷

TOKUNAGA mentioned, at that time, the full-time supervisors of architecture were ITŌ, who was in charge of the Japanese Architecture History, SATŌ, who was in charge of the general architecture of Japan, and NAITŌ, who was in charge of the General Building Contracting District Housing and Japan General Building. NAITŌ taught Structural Science and Building Materials, and ŌBA taught Physics.

⁶³ Tadaoki YAMAMOTO, (山本忠興, June 25th, 1881 - April 21st, 1951) was a Japanese electrical engineer, inventor and educator.

⁶⁴ Tsunezō NAKAGAWA, (中川常造, the head of Mechanical Engineering of Waseda University).

⁶⁵ Shigeyasu TOKOGANA, (徳永重康, August 20st 1874 – February 8th 1940) was a professor at Waseda University, principal of the Waseda Institute of Technology, and lecturer at Tokyo Imperial University.

⁶⁶ Yasuyuki NAKAMURA, 中村康之, the professor of Waseda University.

⁶⁷ 稲門建築会. 1960. 「座談会 (早稲田大学建築学科の創設)」 『稲門建築年誌』:140.

Based on the memories of these professors, the author summarized the organization of the department and the subjects taught by professors during the founding of the Department of Architecture which showed in Table 2.7. A detailed curriculum is documented in the *Waseda Gakuho*⁶⁸ and the conference⁶⁹, as shown in Table 2.8 below.

Table 2.7 Department organization and professors at the time.

Department organization and professors at the time	
Kōichi SATŌ 佐藤功一	General Architecture, Design and Drafting, Western and Japanese architecture 建築一般、設計製図、西洋日本建築
Chūta ITŌ 伊東忠太	Oriental Architecture 東洋建築史
Shinichirō OKADA 岡田信一郎	Design, Architecture, English 意匠学、建築学、英語
Tachū NAITŌ 内藤多仲	Structural, Perspective, Materials 構造学、パースペクティブ、材料
Kōzaburō TAKEISHI 武石弘三郎	Sculpture 彫塑

⁶⁸ 早稲田学報: The *Waseda Gakuho* is a communication magazine published by the Alumni Association of Waseda University, and is issued six times a year on the 15th day of every odd-numbered month.

⁶⁹ 稲門建築会. 1960. 「座談会 (早稲田大学建築学科の創設)」 『稲門建築年誌』:141

Table 2.8 The Department of Architecture's Syllabus from 1910 (Meiji 43rd)⁷⁰.

Syllabus for the year 1910 (Meiji 43 rd)			
Classification	First Academic Year	Second Academic Year	Third Academic Year
Measurement 測量	Measurement and Practice 測量及実習		
Construction Material 建築材料	Construction Material 建築材料		
Building Construction 建築構造	Architectural Construction 建築構造学 Building Construction Methods 建築構造法		
Special Intentions 特別意匠	Special Intentions 特別意匠		
Residential Architecture 住宅建築 Architectural Styles 建築様式	Residential Architecture 住宅建築 Japanese Architectural Style 日本建築様式 Eastern Architectural Style 東洋建築様式 Western Architectural Style 西洋建築様式		
Home construction 家屋構造	Drawing 製図 Programming 計画製図		
Drawing Methods 書法	Perspective Drawing Methods 透視画法 Free Drawing Method 自在画法		
English 英語	Lecture 講義 Composition 作文		

Table 2.9 The Department of Architecture's Syllabus from 1911 (Meiji 44th)⁷¹.

Syllabus for the year 1911 (Meiji 44 th)			
Classification	First Academic Year	Second Academic Year	Third Academic Year
Building and Structural Engineering 建築構造学	General Mechanics 材力学 Construction 構造学一般	Iron Construction 鉄構造	
Building Construction Methods	General Architecture 構造学一般	Iron Construction 鉄構造	

⁷⁰ 早稲田大学校友会. 1911. 「早稲田大学報告号」『早稲田学報』10月号.

⁷¹ 早稲田大学校友会. 1912. 「早稲田大学報告号」『早稲田学報』10月号.

Syllabus for the year 1911 (Meiji 44 th)			
建築構造法			
Construction Material 建築材料	Material Type 材料の種類 Property Method 性質製法		
Building Style 建築様式	Japanese Architecture 日本建築 Oriental Architecture 東洋建築 Western Architecture 西洋建築	Japanese Architecture 日本建築 Oriental Architecture 東洋建築	
Architectural Design 建築意匠	Special Design for Various Buildings 各種建築物特別意匠	Aesthetics of Architecture 建築美学 Special Design for Various Buildings 各種建築物特別意匠	
Residential Building 住宅建築	Japanese Housing (Equipment and Construction) 日本住宅（設備及構造） European Architecture (Equipment) 歐洲各国建築（設備）		
Decoration methods 裝飾法		Decoration Theory 裝飾材料 Decoration Material 裝飾法 Decoration Methods 裝飾理論	
Construction Implementation Method 工事実施法		Construction Implementation Method 工事実施法	
Measurement 測量	Flat Measurement 平面測量 Height Measurement 高低測量		
Decorative painting 裝飾書	Shape Exercise 形の練習 Colour Exercise 色の練習	Detailed Drawing of The Decoration 裝飾的詳細図	
Sculpture 雕塑		Form Practice 形の練習	
Design Drawing 設計製図	Design Drawing 設計製図	Design Drawing 設計製図	
Foreign Language 外国語	English/ German 英語/獨語	English/ German 英語/獨語	

Table 2.10 The Department of Architecture's Syllabus from 1912 (Taishō 1st)-1920 (Taishō 9th)⁷².

Syllabus for the academic year 1912 (Taishō 1 st)-1920 (Taishō 9 th)			
Classification	First academic year	Second academic year	Third academic year
Building and Structural Engineering 建築構造学	General Mechanics 材力学 Construction 構造学一般	Iron Construction 鉄構造	
Building Construction Methods 建築構造法	General Architecture 構造学一般	Iron Construction 鉄構造	
Construction Material 建築材料	Material Type 材料の種類 Property Method 性質製法		
Building Style 建築様式	Japanese Architecture 日本建築 Oriental Architecture 東洋建築 Western Architecture 西洋建築	Japanese Architecture 日本建築 Oriental Architecture 東洋建築	
Architectural Design 建築意匠	Special Design for Various Buildings 各種建築物特別意匠	Aesthetics of Architecture 建築美学 Special Design for Various Buildings 各種建築物特別意匠	
Residential Building 住宅建築	Japanese Housing (Equipment and Construction) 日本住宅（設備及構造） European Architecture (Equipment) 歐洲各国建築（設備）		
Decoration Methods 裝飾法		Decoration Theory 裝飾理論 Decoration Material 裝飾材料 Decoration Methods 裝飾法	
Construction Implementation Method 工事実施法		Construction Implementation Method 工事実施法	
Measurement 測量	Flat Measurement 平面測量 Height Measurement 高低測量		
Decorative Drawing 裝飾書	Shape Exercise 形の練習 Colour Exercise 色の練習	Detailed Drawing of The Decoration 裝飾的詳細図	Detailed Drawing of The Decoration 裝飾的詳細図

⁷² 早稲田大学校友会. 1921. 「早稲田大学報告号」『早稲田学報』10月号.

Syllabus for the academic year 1912 (Taishō 1 st)-1920 (Taishō 9 th)			
Sculpture 彫塑		Form Practice 形の練習	Detailed Decoration 裝飾的細部の製作
Design Drawing 設計製図	Design Drawing 設計製図	Design Drawing 設計製図	Design Drawing 設計製図 Graduation Plan 卒業計画
Regulations 法規			Building Regulations 建築法規
Sanitary Equipment 衛生設備			Ventilation 換氣 Lighting 採光 Heating 暖房 Drainage Plumbing 給水及排水
Mechanical Engineering and Electrical Engineering 機械工学及電気工学			Mechanical and Electrical Engineering 機械及電気工学要項
Foreign Language 外国語	English/ German 英語/獨語	English/ German 英語/獨語	English/ German 英語/獨語

We could conclude from the above, in the first year, the curriculum emphasized more on introductory education and basic theoretical knowledge; in the second year, the course emphasized on the advanced development of mapping and drawing skills related to field surveys; and in the third year, it was a comprehensive training in construction-related regulations, equipment, drainage and plumbing. In other words, the curriculum of the Department of Architecture at Waseda University was designed to train practical architects in three steps -- from basic theoretical knowledge to advanced drafting skills and ultimately to the development of comprehensive skills on the actual construction site.

As a result of SATŌ's effort to avoid any mistakes under TATSUNO's assistance, some students at the University of Tokyo at that time looked with great interest at the origin of the professors at Waseda University, since Waseda University was treated as the possessor of best scholars. In September 1910 (Meiji 43rd), the Department of Architecture opened with 22 first-year students, but only 11 were able to graduate. The reason was that the authorities were strict in educating the early graduates, as they would be questioned about the importance of their dignity as graduates of Waseda's Department of Architecture.

2.4.4 Waseda University Vocational Engineering Department, Waseda Technical School, Waseda Higher Technical School and Waseda Architecture Correspondence Education

· Waseda University Vocational Engineering Department

In response to the growing social demand for secondary engineers to meet the needs of the development of heavy and chemical industries during the war, a number of industrial schools and universities were established.

Tachū NAITŌ thought of a way to establish an engineering department in vocational department and to share the facilities of the Department of Science and Engineering, and finally the decision was made to establish the engineering department which was named Waseda University Vocational Engineering Department. On April 1st, 1939, a three-year engineering course was established in the Waseda University Vocational Engineering Department, consisting of four departments: Mechanical Engineering, Electrical Engineering, Architecture, and Civil Engineering.

The following table 2.11 shows the composition of the architectural discipline in Shōwa 18th, as for the differences in education between the Department of Science and Engineering, the Vocational Engineering Department was characterized by language, physics, chemistry, mathematics, experiments and practical training.

Table 2.11 The composition of the architectural discipline in Shōwa 18th of Waseda University Vocational Engineering Department.

Subjects	Semester (Hours)				
	Semester 1		Semester 2	Semester 3	Semester 4
	Part I	Part II			
Self-Discipline 修身	2	2	1	1	1
Japanese 国語漢文		2			
English 英語		6			
Mathematics (Analytical Geometry, Differential and Integral Calculus, Etc.) 数学 (解析幾何学微分学積分学其他)	4	8	2		
Physical 物理		2			
Japanese Architecture 日本建築			D. 2		
Architectural History 建築史			2	D. 2	
Artisan Decoration 意匠装飾			D. 2	2	2
Construction Materials 建築材料	2				
Building Construction 建築構造学	4	S. 4	S. 4 D. 2	S. 4	S. 5 D. 2
Specifications, Calculations, Execution Plans 仕様、予算、施行計画			2	2	2
Building Construction Method 建築構造法	4				
Reinforced Concrete Construction 鉄筋混凝土構造			S. 4 D. 2		
Iron And Bone Construction 鉄骨構造				S. 3 D. 2	
Drawing, Self-Consciousness 製図、自在面	8	D. 24	7	S. 8 D. 2	S. 10 D. 13
Equipment 設備			2	2	2
Surveying 測量学				2	
Surveying And Practice 測量実習					2
Building Regulations 建築法規					2
Count 計	24	24	24	24	26

- Part 1: Junior high school graduates and their equivalents
- Part 2: Those who have graduated from technical schools or equivalent
- The Department of Architecture is divided into two courses – Structure and Design, and students are required to choose one of them according to their aspirations. (S means Structure Courses and D means Design Courses in the table 2.11).

• Waseda Technical School

Waseda planned to establish an evening school for the purpose of training secondary technicians, i.e., technicians or foremen, using the facilities of the Department of Science and Engineering, thus, it was established on May 5, 1911.

Waseda Technical School consisted of four departments: mechanical, electrical, mining and metallurgical, and architectural. It was designed to admit students from the end of primary schools to those who had completed the fourth year of junior high school in the first or third semester, depending on their level of education, and to provide them with six months to one year and half's preliminary education, followed by one year of low-grade practical education in the fourth and fifth semesters.

From 1913 onwards, graduates of the Waseda Technical School who were recommended by the headmaster could enter the Department of Science and Engineering's Higher Preparatory Courses through the same selection examination as junior high school graduates.

The school was abolished in 1948 when the new compulsory junior high school system was introduced. As this section is not in the focus of this thesis, the author has compiled the configuration of the subjects in its creation years to facilitate the teaching priorities of this school. as shown in the table 2.12.

Table 2.12 The composition of the architectural discipline from Meiji 44th to Taishō 1st of Waseda Technical School.

Subjects	Semester (Hours)				
	Semester 1	Semester 2	Semester 3	Semester 4	Semester 5
Self-Discipline 修身	1	1	1		
Japanese 国語漢文	4	2	2		
English 英語	6	6	4		
Arithmetic 算術	6				
Algebra 代数		4	2		
Geometry 幾何		2	4		
Triangle 三角			2		
Physical 物理		2	2		
Chemical 化学		2	2		
Drawing and diagramming 製図及図画	5	4	4		
Diagramming 製図				9	6
Applied Mechanics 応用力学				2	
Building Construction 建築構造				3	3
Construction Materials 建築材料				1	2
Architectural Styles 建築様式					2
Japanese Architecture 和様建築				1	2
Construction Method 施工法					2
Building Construction Methodology 建築構造計算法					
Geology and Petrology in General 地質及岩石学大意				1	
Self-Consciousness 自在画				1	
Landscape Drawing 配景図				1	
Measurement 測量				1	1
Count 計	22	23	23	20	20

• Waseda Higher Technical School

Actually, on the occasion of the 15th anniversary of the Waseda Technical School in 1926, Waseda had begun to consider the possibility of establishing an evening school for higher education. Then, in response to this social need, Waseda University follows in the footsteps of Nihon University and took up the idea of short-term training engineers and urged the establishment of a school which called Waseda Higher Technical School (a two-year evening school) in April 1928.

The aims and objectives were to provide specialized education to students who had graduated from a technical school or a junior high school, and to train engineers with academic and technical skills between those of a university and a technical school. The school building was shared with the Waseda University Vocational Engineering Department, and the facilities of the Department of Science and Engineering were used for experiments and practice.

The school offered only four courses: mechanical engineering, electrical engineering, architecture, and civil engineering. In 1939, the length of the course was increased to three years, and the content of the courses was enriched. The table 2.13 above showed the architecture-related subjects taught at Waseda Higher Technical School in Shōwa 7th.

Table 2.13 The Architecture-Related Subjects at Waseda Higher Technical School in Shōwa 7th.

First academic year		Second academic year		Third academic year	
Subjects	Hours	Subjects	Hours	Subjects	Hours
Ethics and Citizenship 倫理及公民科	1	Ethics And Citizenship 倫理及公民科	1	Ethics And Citizenship 倫理及公民科	1
Mathematics 数学	5	Mathematics 数学	2	Architecture Plan 建築計画	2
		Architecture Plan 建築計画	2	Construction Method 建築施工法	2
Physics 物理学	3	History Of Japanese and Oriental Architecture 日本及東洋建築史	2	Construction Equipment 建築設備	2
Chemical 化学	2	History Of Western Architecture 西洋建築史	2	Architectural Sciences (Lighting, Acoustics) 建築科学(照明学、音響学)	2
Architecture Plan 建築計画	1	Building Construction Methods 建築構造法	2	Urban Prlanning 都市計画	2
Building Construction Methods 建築構造法	2	Building Construction 建築構造学	1	Gardening 造園学	0.2
Applied Mechanics and Building Construction 応用力学及建築構造学	3	Reinforced Concrete Construction 鉄筋コンクリート構造学	2	Mechanical Engineering 機械工学	2
Surveying and Practice 測量学及実習	2	Iron And Bone Construction 鉄骨構造学	2	Electrical Engineering 電気工学	2
Architectural tracing 建築描法	2	Construction Method 建築施工法	2	Civil Engineering 土木工学	0.2
Materials 材料学	2	Construction Equipment 建築設備	0.2	Design & Graphics 設計及製図	10.7
Chartology 図学	2	Building Decoration 建築装飾	2		
Design & Graphics 設計及製図	7	Architectural Tracing 建築描法	2	Seismic Construction 耐震構造学	2
English 英語	3	Design & Graphics 設計及製図	8	Structured Exercises 構造演習	0.2
				Special Lectures and Exercises 特別講義及演習	2
		Building Regulations 建築法規	0.2	Graduation Plan 卒業計画	2.12
		Special Lectures and Exercises 特別講義及演習	2	Industrial Economics and Bookkeeping 工業経済及簿記	2
		English 英語	3	Factory Management 工場管理	2
Physical Exercise 体練	2	Deutsch 独逸語	2	English 英語	2
				Deutsch 独逸語	3
Coaching 教練	2	Coaching 教練	2	Coaching 教練	2

• Waseda Architecture Correspondence Education

Although Waseda University did not have a corresponding industrial school as Nihon University (table 2.14), in addition to the four institutions mentioned above, Waseda University had another extraordinary education institution called the Correspondence Education that issued *Waseda Architectural Lecture Notes*. This was unique not only among private universities but also among national universities.

It remains to be investigated: (1) why architectural correspondence education was established at Waseda University in such a special period; (2) how long this education system lasted; (3) what this system impacted on the society and its position.

Table 2.14 A Comparison of Waseda University and Nihon University architecture-related institutions

Education Level	Waseda University		Nihon University	
	Name	Establishment Date (the Department of Architecture)	Name	Establishment Date (the Department of Architecture)
Universities 大学	Waseda University The Department of Science and Engineering 早稲田大学 (理工学部)	1909	Nihon University The Department of Engineering 日本大学 (工学部)	1930
Vocational Schools 専門学校	Waseda University Vocational Engineering Department 早稲田大学専門部工科	1939	Nihon University Vocational Engineering Department 日本大学専門部工科	1929
Industrial Schools 実業学校			Nihon University Industrial School 日本大学工業学校	1929
Various Schools A 各種学校 A	Waseda Higher Technical School 早稲田高等工学校	1928	Nihon University Higher Technical School 日本大学高等工学校	1920
Various Schools B 各種学校 B	Waseda Technical School 早稲田工手学校	1911	Nihon University Technical School 日本大学工学校	1924

2.5 Conclusion

This chapter reviewed the transition of architectural education in Japan from university education in the Meiji Period to industrial education in the Taishō Period and Shōwa Period.

During the Meiji Period, with the development of modernization, Japan began to learn Western technology and established university architecture education mainly at the University of Tokyo. Until the establishment of the Department of Architecture at Kyoto Imperial University in 1921 (Taishō 10th), Tokyo Imperial University was the only university education institution in Japan. It was not until 1935 (Shōwa 10th) that an industrial school was established in Kuramae, Tokyo, which was later upgraded to an industrial college, and then moved to Ookayama to become the Tokyo Institute of Technology. By examining the curriculum of the time, the author found that although the levels of teaching content were different, the organization of subjects was in many cases the same.

Waseda University established the Department of Science and Engineering in 1909 (Meiji 42nd), and Sanae TAKATA pointed out that the purpose of Waseda University as a comprehensive university to set up the Department of Science and Engineering was to cultivate the human resources needed by the country. In other words, the teaching policy of Waseda Science and Engineering was practicality.

Similarly, the Department of Architecture at Waseda University was born in September 1910 (Meiji 43rd) with a historical and social mission. It was the first private university after the University of Tokyo to establish a Department of Architecture. The Department of Architecture was established in 1910 (Meiji 43rd) for the purpose of training personnel in architecture. Then, in response to the growing social demand for mid-career engineers to meet the needs of the development of heavy and chemical industries during the war, the Waseda University Vocational Engineering Department, Waseda Higher Technical School and Waseda Technical School, were established in 1939 (Shōwa 14th), 1928 (Shōwa 3rd) and 1898 (Meiji 31st). And finally, the architectural correspondence course, an educational system that published the *Waseda Architectural Lecture Notes* for *off-campus* students.

In summary, architectural education at Waseda University in the Shōwa Period was a combination of five educational systems. On one hand, the Department of Architecture was responsible for the traditional academic education at the upper level of society. On

the other hand, two industrial education systems, the Waseda Technical School and the Correspondence Education, were used to expand the scope of education and support the lower industrial level, making it an excellent education system.

The following chapters will discuss why the correspondence course was established at Waseda University in such a particular period, how long this educational system lasted, and what influence the published lecture books had on society.

References

In sequential order

- ARCHITECTURAL INSTITUTE OF JAPAN. 1972. “Architectural education” *The modern Japanese architecture development history*. Tokyo: MARUZEN PUBLISHING.
- UNIVERSITY OF TOKYO CENTENNIAL HISTORY COMPILATION COMMITTEE. 1984. *The Centennial History of the University of Tokyo. General History 1*. Tokyo: THE UNIVERSITY OF TOKYO PRESS.
- Mayumi TSUNODA. 2019. *History of Architecture in the Meiji Period*. Tokyo: CHŪŌKOURON BIJUTSU SHUPPAN PUBLISHING.
- TOKYO INSTITUTE OF TECHNOLOGY. 1985. *Centennial History of Tokyo Institute of Technology-Department History 1*. Tokyo: TOPPAN PRINTING CO., LTD.COMMERCE AND INDUSTRY.
- NAGOYA INSTITUTE OF TECHNOLOGY. 2006. *Nagoya Institute of Technology’s 100-year history of the Department of Architecture*. Nagoya: NAGOYA INSTITUTE OF TECHNOLOGY 100TH ANNIVERSARY OF THE FOUNDING OF THE DEPARTMENT OF ARCHITECTURE.
- KOGAKUIN UNIVERSITY. 1993. *Centennial History of Kogakuin University*. Tokyo: KOGAKUIN UNIVERSITY.
- KYOTO UNIVERSITY CENTENNIAL HISTORY COMPILATION COMMITTEE. 1997. *Centennial History of Kyoto University-Department History 2*. Kyoto: KYOTO UNIVERSITY.
- NIHON UNIVERSITY. 2000. *Centennial History of Nihon University*. Tokyo: NIHON UNIVERSITY.
- Yasutada WATANABE. 1991. “History of the Department of Architecture, Faculty of Science and Engineering, Waseda University” *Waseda Architecture*: 12-19.
- Kōichi SATŌ. 1912. “In Critical Review of the Technical Staff of High School Architecture” *Architectural World*. No.7.
- Sanae TAKATA. 1909. “Lecture: Opening Ceremony”, *Waseda Gakuho*, No.171: 13-14.
- Sanae TAKATA. 1911. “The purpose of the opening of the Waseda Technical School”, *Waseda Gakuho*, No.196: 2.
- Sanae TAKATA. 1912. “To the students at the graduate school of science and engineering”, *Waseda Gakuho*, No. 206: 2-6.
- WASEDA UNIVERSITY ALUMNI ASSOCIATION. 1911. “Waseda University

- Report Issue” *Waseda Gakuho*, No. 200: 17.
- WASEDA UNIVERSITY ALUMNI ASSOCIATION. 1912. “Waseda University Report” *Waseda Gakuho*, No. 212: 19.
 - WASEDA UNIVERSITY ALUMNI ASSOCIATION. 1921. “Waseda University Report” *Waseda Gakuho*, No. 332: 25.
 - Yasutada WATANABE. 1991. “History of the Department of Architecture, the Graduate School of Science and Engineering, Waseda University” *Waseda Architecture*: 13–15.
 - TOUMON ARCHITECTURAL SOCIETY. 1960. “Roundtable Discussion (The Founding of the Department of Architecture at Waseda University)”, *Annual Journal of Tomon Architectural Society*: 139-158.

Chapter 3

About the *Waseda Architectural Lecture Notes*

3.1 The History of Waseda Correspondence Education

3.2 Publication and Distribution of the *Waseda Architectural Lecture Notes*

3.3 Collection and Storage

3.4 A Review of the Content and Its Development

3.5 Conclusion

3.1 The History of Waseda Correspondence Education

In pre-war Japan, the first correspondence education's lecture notes (Law) were published by Chuo University in 1885, followed by Hosei University in the same year. Waseda University promoted correspondence education by publishing the lecture notes in 1886. Nihon University was followed by Waseda University, which published its lecture notes (Law) in 1890.

It can be seen from figure 3.1 that Waseda University was the only university that promoted architectural correspondence education through the publication of lecture books before the war.

1871	1885	1886	1890
	Hosei University	Waseda University	Nihon University
	Lecture Notes: the Department of Law	Lecture Notes: the Department of Architecture (1929-1944) and various other departments	Lecture Notes: the Department of Law
	Chuo University		
	Lecture Notes: the Department of Law		

Figure 3.1 The Chronology of Occurrences about the Correspondence Lecture Notes in per-war Japan.



Figure 3.2 The Spring Exhibition by Waseda University Center of University History in 2016.

3.1.1 The beginning of the Correspondence Lecture Notes

In the mid-1880s, with the promulgation of the Constitution and the opening of the Diet just a few years away, the Japanese state and society were undergoing rapid changes. While Western-inspired laws and institutions were being introduced one after another, the educational system and the media of speech were not yet in place to transmit the new knowledge, and to fill the gaps, there was a flurry of publishing of Lecture Notes, mainly by private vocational schools in Tokyo.

Correspondence education as an independent and complete educational system in Waseda University was introduced and established by Professor Sanae TAKATA who was the first Principal of Waseda University, in 1886 (Meiji 19th). This system served potential students who lacked economic resources, lived too far away, or simply lacked the time for a consistent full-time or evening-only education program. With this intention in mind, the system invited professors and scholars to write and compile course materials that could be later assembled and mailed to the “*off-campus students*” and thus freed both teachers and students of the time and geographic limitations against general mass education.

Sanae TAKATA made significant contributions to the compilation and publication of these course materials that became lecture notes. He was one of the earliest authors of the lecture notes used in the Correspondence Lecture Seminar. He also proposed and mobilized the publication of the Waseda University lecture notes. He invited most tenured professors and teachers at Waseda University to participate in writing the lecture notes, and entrusted the publication processing with Keita YOKOTA, who shared his vision and ambitions. After Keita YOKOTA ceased to work in this area, the responsibility of publication was internalized into Waseda University and went under the charge of the Tokyo College Press, the predecessor of today’s Waseda University Press. The earliest publications were *Lecture Notes of the Department of Political Science* and *Lecture Notes of the School of Law*; each volume contained 60 pages and charged 8 Yen. This vision of open university⁷³ was profoundly rooted and pervaded into future correspondence education at Waseda University.

The Figure 3.3 is a compilation of the Lecture Notes of the Igirisu Houritsu Gakko⁷⁴ (later Chuo University), which was the first to start a Correspondence Education. The

⁷³ Opening University : In the second half of the 19th century, the European and American countries, mainly in the United Kingdom and the United States, launched a university extension campaign to help females gain higher education access. This campaign implemented communication education through touring.

⁷⁴ 英吉利法律学校 : Igirisu Houritsu Gakko (later Chuo University).

author, Kinosuke YAMADA (1859-1913), was a member of the *Outo Kai*⁷⁵, a group led by Azusa ONO (1852 – 1886) and was instrumental in the founding of Tokyo Senmon Gakko.

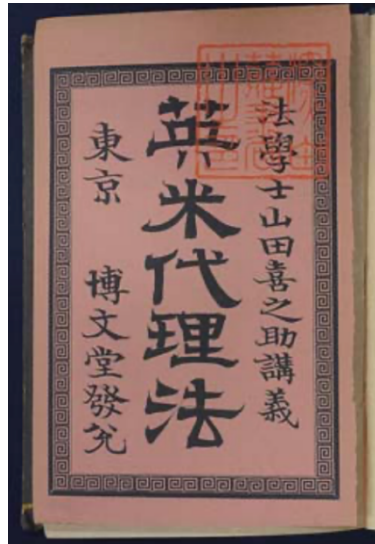


Figure 3.3 Kinosuke YAMADA Lecture Notes- *Anglo-American Agency Law (Eibei Dairihou)* (1886).

3.1.2 Intangible School: the development of the Correspondence Lecture Notes

Unlike the current system, completion of the correspondence education could not get any official qualifications. However, those who took the correspondence education were given rights as “*off-campus students*”, such as auditing and use of the library, and if they passed the examination, they could be transferred to regular courses.

While many other lecture catalogues were short-lived, the correspondence catalogues, supported by the clear philosophy of University Extension, spread Waseda’s education beyond the campus to every corner of the country. Lecture notes were the vital medium and channel of education at that time. These materials not only helped a lot of off-campus students personally, but also extended the scope and depth of Waseda University.

In this exhibition, there is a collection and display of liberal arts subjects such as politics, literature, and law, but there are no architectural textbooks, which is related to the difficulty of accessing materials. Fortunately, a textbook was issued for

⁷⁵ After the Meiji 14th political upheaval, Shigenobu ŌKUMA, together with Azusa ONO, formed the Rikken Kaishintō. With the support of the "Ogata-kai", a group of promising candidates from the former University of Tokyo whom Shigenobu ŌKUMA had invited, he conceived the idea of establishing a school with the main purpose of training people to lead the constitutional politics that would soon be established.

Correspondence Education in this period, the *Waseda Architectural Lecture Notes*. Since the textbooks were written by the professors of Waseda University's Department of Architecture in accordance with TAKATA's educational requirements, the collection and analysis of the architectural textbooks are significant to research in an area that no one has studied so far which can fully grasp the skills required of the technical personnel trained in Department of Architecture at Waseda University in the particular context of the time.

Mechanisms were also put in place to enrich the lives of out-of-school students, such as answering questions and providing advice, holding meetings for out-of-school students in various locations, publishing supplementary reading materials, and selling multiple goods by mail order. It is not an exaggeration to say that the Correspondence Lecture Notes, which attracted hundreds of thousands of off-campus students, made Waseda University famous throughout the country.

The author created a chronology of the Waseda Correspondence Lecture Notes, which provides a visual overview of the publication and development of the Lecture Notes of each faculty from the beginning to the end of the entire Correspondence Education at Waseda University.

Table 3.1 The chronology of the lecture notes of the various faculties at Waseda University

Japanese Imperial Year	Christian Year	Month	Matter
Meiji 19 th	1886.	May	Lecture Notes of the Department of Political Science, the Department of Economics, the Department of Law, and the Department of History, published by the Political Science Lecture Association (the beginning of the Correspondence Lecture Notes)
Meiji 20 th	1887.	September	The “ <i>Regulations for Off-Campus Students</i> ” regarding subscribers to lecture books established; lecture books reorganized into two categories, “ <i>Lecture Notes of the Faculty of Political Science</i> ” and “ <i>Lectures of the Faculty of Law</i> ”.
		September	Political Science Lecture Meeting renamed as Tokyo Senmon Gakko Publishing, and distribution of two types of lecture proceedings begins in October.
Meiji 21 st	1888.	October	Lecture Notes, renamed “ <i>Lecture Notes of Tokyo Senmon Gakko</i> ”, increased to three types: Political Science, Judicial Science, and Public Administration.
Meiji 24 th	1891.	February	Tokyo Senmon Gakko Publishing Office moved from 3-bancho in the Ubecho district to the school premises, and the publication of Lecture Notes became a direct operation of Tokyo Senmon Gakko.
Meiji 28 th	1895.	January	Published the Lecture Notes of the Department of Literature.
Meiji 34 th	1901.	December	Publication of Lecture Notes of the Department of History.
Meiji 35 th	1902.	May	Published the Lecture Notes- Secondary Education.
		December	Publication of five types of “ <i>Waseda University Lecture Notes</i> ” for the Departments of Political Science and Economics, Law, Public Administration, Literature and Education, and History.
Meiji 36 th	1903.	October	Renamed Department of History, Department of History and Geography in the Lecture Notes.
Meiji 38 th	1905.	March	Lecture book “ <i>Waseda Commercial Lectures</i> ” published.
Meiji 39 th	1906.	April	Lecture notes “ <i>Waseda Junior High School Lectures</i> ” published.
		October	Abolition of the Department of Public Administration and the Department of History and Geography in the Lecture Notes.
Meiji 41 st	1908.	April	Publication of the Lecture Notes “ <i>Higher National Education</i> ”
Meiji 42 nd	1909.	September	Shortened the master’s degree period for Lecture Notes to 1.5 years.
Taishō 11 th	1922.	April	The first issue of “ <i>Lectures on Higher Education for Women</i> ” is published, and outstanding graduates are eligible to take the undergraduate auditing examination.
Shōwa 2 nd	1927.	December	The first issue of “ <i>Lecture Notes on Electrical Engineering</i> ” was published.
Shōwa 3 rd	1928.	October	The first issue of the correspondence Lecture Notes “ <i>Preliminary Lectures on Electrical Engineering.</i> ”
Shōwa 4 th	1929.	October	The first issue of the Correspondence Lecture Notes “ <i>Waseda Architectural Lecture Notes.</i> ”
Shōwa 5 th	1930.	December	Renamed the correspondence Lecture Notes “ <i>Preliminary Lectures on Electrical Engineering</i> ” to “ <i>Latest Lecture Notes on Electricity</i> ”.

Chapter 3
About the *Waseda Architectural Lecture Notes*

Japanese Imperial Year	Christian Year	Month	Matter
Shōwa 6 th	1931.	December	Correspondence Lecture Notes “ <i>Latest Electrical Lecture Notes</i> ” is renamed “ <i>Preliminary Lectures on Electrical Engineering</i> ”.
Shōwa 21 st	1946.	August	Resumption of the publication of “ <i>Lecture Notes on Middle School</i> ” and “ <i>Lectures on Women’s Studies</i> ”, which were interrupted at the end of the war.
Shōwa 23 rd	1948.	January	Resumption of the publication of “ <i>Commercial Lecture Notes</i> ”, a collection of correspondence lectures interrupted at the end of the war.
Shōwa 24 th	1949.	April	The conventional correspondence Lecture Notes “ <i>Lecture Notes on Junior High School</i> ”, “ <i>Lecture Notes on Women’s Studies</i> ” and “ <i>Lecture Notes on Commerce</i> ” are completely revised as “ <i>Lecture Notes on Junior High School</i> ” and “ <i>Lecture Notes on Commercial High School</i> ” and “ <i>Lecture Notes on New High School System</i> ” is published.
Shōwa 31 st	1956.	October	Stop accepting subscriptions to the Correspondence Lecture Notes.
Shōwa 33 rd	1958.	March	Abolition of all Correspondence Lecture Notes.

Chronology of Occurrences about the Correspondence Lecture Notes

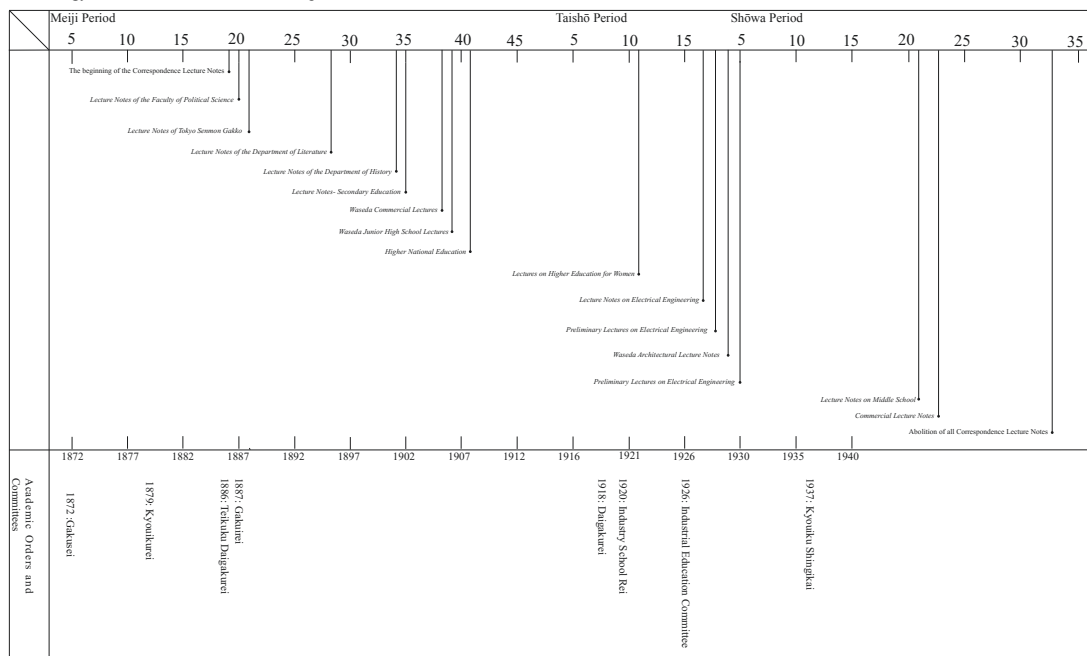


Figure 3.4 Chronology of Occurrences about the Correspondence Lecture Notes at Waseda University.

The supplementary readings included the lecturer's lessons, commentaries on current affairs, cartoons, columns for submissions, and stories about the experiences of students from outside the school. Although there are only a few copies left, and the period of publication is still unknown, these books are valuable historical documents that tell us about the life of students outside of school.



Figure 3.5 Covers of the lecture notes of the various faculties at Waseda University.

3.1.3 Diverse *off-campus* students and the reality of self-education

In 1905, after the end of the Russo-Japanese War, the primary school enrolment rate exceeded 95%, and a full-fledged educational society arrived in Japan. However, even after graduating from primary school, less than 10% of students were able to go on to higher education such as junior high school. For many people who were unable to move to Tokyo or go on to higher education due to poverty, family or physical reasons, self-study through correspondence courses was one of the few ways to continue their studies.

In many cases, the purpose of subscribing to the correspondence course was to pass various examinations and qualifications such as “Senken”⁷⁶ (examination for entrance to the industrial school) in order to achieve success in life. Some of the *off-campus* students went on to become active in various fields, including later becoming teachers at Waseda University. However, it was said that only one in ten students completed the course because it took more patience and effort than others to achieve success through self-education.

It is worth noting that the Waseda University Lecture Notes are accessible to a wide range of readers and overseas readers, and are available in Braille and in various languages, as shown in Figure 3.6.

⁷⁶ 「専検」(専門学校入学者検定試験): Senken



Figure 3.6 Braille and translated versions of the lecture notes.

3.1.4 End of the era of the Correspondence Lecture Notes

In the 1930s, as the war intensified, the number of pages and the number of lecture notes were reduced. By 1945, the publisher was destroyed in the Tokyo air raid, making it impossible to continue publishing the lecture notes.

The distribution of lecture notes was temporarily suspended due to the war, and after the war, correspondence education was again promoted as a medium that embodied the spirit of educational democracy.

In response as well as to promote this educational system, Waseda University began again to publish lectures corresponding to the new post-war system. A new section of correspondence education was established for this purpose under false pretences. Still, due to the reduced print run, Waseda University's lecture notes were not as productive as they had been before the war. Therefore, they were forced to choose between the Second Evening Division, which was created in 1949 Waseda University eventually decided the

Second Evening Division.

By 1956, it officially stopped accepting subscriptions, ending a 70-year history. In general, this also signalled the end of the era of self-education.

3.2 Publication and Distribution of the *Waseda Architectural Lecture Notes*

Previous literature shows inconsistencies in the time frame during which the *Waseda Architectural Lecture Notes* were published and distributed. As mentioned in Section 1.2, Hisao NAKAJIMA dated the lecture notes from 1929 (Shōwa 4th), while Takahide HORII identified twenty-one reprints and distributions between 1926 (Shōwa 1st) and 1939 (Shōwa 17th). This research aims to address this inconsistency over the publication and distribution of the Lecture Notes.

A preceding context can be found in *Waseda University Press: A History of 100 Years*. In October 1928 (Shōwa 3rd), the Waseda University Press published the *Pre-College Lecture Notes of Electrical Engineering*. The unexpected popularity encouraged the Press to plan further publishing of lecture notes in other subjects, including architecture, and expand recruiting of publication staff. In October 1929 (Shōwa 4th), the project of the *Waseda Architectural Lecture Notes* officially launched.

A summary compiled through *Waseda Lecture Notes Samples* in Table 3.2 and Table 3.3 can provide better insights into the publishing and distribution of the lecture notes. It showed that the original edition was published in October 1929 (Shōwa 4th). According to the last version of *Waseda Architectural Lecture Notes* 1942 (Shōwa 17th) collected, it accurately recorded this version was the 26th lecture notes which issued from October 1942 (Shōwa 17th) to March 1944 (Shōwa 19th). It showed that the whole set of the Waseda Architecture Notes was published every April and October 1929 (Shōwa 4th), and March 1944 (Shōwa 19th), a total of 26 times, including the original edition. From the original to the third edition were published six volumes were published, including the *Overview and History, Material and Construction, Implementation Plan, Equipment, Drawing* and *Architecture Plan*. From the fourth edition to the final edition 18 volumes were published. Therefore, we could conclude both Hisao NAKAJIMA and Takahide HORII slightly missed the accurate publication periods.

Table 3.2 Publication and distribution of the *Waseda Architectural Lecture Notes* (English/ Japanese).

Instructors/ Professors	Subjects	Publication and distribution								Storage statement				
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set I	Set II	Set III	Set IV
Kōichi SATŌ 佐藤功一	Architecture Outline 建築汎論	Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 th , 25 th edition 18 volumes	26 th edition 18 volumes	N/A	N/A	N/A	•
		Overview and History 概論及び歴史	Vol. 6	Vol. 6	Vol. 3	Vol. 3	Vol. 6	Vol. 10	Vol. 1	N/A	N/A	N/A	•	
Chūta ITŌ 伊東忠太	Orient Architectural History Outline 東洋建築史	Overview and History 概論及び歴史	Vol. 3	Vol. 6	Vol. 3	Vol. 6	Vol. 3	Vol. 2	Vol. 3	Vol. 2	N/A	N/A	N/A	•
		Overview and History 概論及び歴史	Vol. 2	Vol. 3	Vol. 2	Vol. 6	Vol. 2	Vol. 3	Vol. 2	Vol. 3	N/A	N/A	N/A	•
Kōichi SATŌ 佐藤功一	Western Countries Architectural History (1) 西洋建築史 (1)	Overview and History 概論及び歴史	Vol. 2	Vol. 3	Vol. 2	Vol. 6	Vol. 2	Vol. 3	Vol. 2	Vol. 2	N/A	N/A	N/A	•
		Overview and History 概論及び歴史	Vol. 3	Vol. 6	Vol. 2	Vol. 6	Vol. 2	Vol. 3	Vol. 2	Vol. 3	N/A	N/A	N/A	•
Mamoru NAKAMURA 中村鎮	Western Countries Architectural History (2) 西洋建築史 (2)	Overview and History 概論及び歴史	Vol. 2	Vol. 3	Vol. 2	Vol. 6	Vol. 2	Vol. 3	Vol. 2	Vol. 2	N/A	N/A	N/A	•
		Overview and History 概論及び歴史	Vol. 3	Vol. 6	Vol. 2	Vol. 6	Vol. 2	Vol. 3	Vol. 2	Vol. 3	N/A	N/A	N/A	•
Yasushi TANABE 田邊泰	Japanese Architectural History 日本建築史	Overview and History 概論及び歴史	Vol. 2	Vol. 3	Vol. 2	Vol. 6	Vol. 2	Vol. 3	Vol. 2	Vol. 2	N/A	N/A	N/A	•
		Overview and History 概論及び歴史	Vol. 3	Vol. 6	Vol. 2	Vol. 6	Vol. 2	Vol. 3	Vol. 2	Vol. 3	N/A	N/A	N/A	•
Wajirō KON 今和次郎	Configuration Art Argument 構成美論	Overview and History 概論及び歴史	Vol. 2	Vol. 3	Vol. 2	Vol. 6	Vol. 2	Vol. 3	Vol. 2	Vol. 2	N/A	N/A	N/A	•
		Overview and History 概論及び歴史	Vol. 3	Vol. 6	Vol. 2	Vol. 6	Vol. 2	Vol. 3	Vol. 2	Vol. 3	N/A	N/A	N/A	•
Kenji IMAI 今井兼次	Modern Architecture Outline 近代建築概論	Overview and History 概論及び歴史	Vol. 6	Vol. 3	Vol. 6	Vol. 3	Vol. 6	Vol. 3	Vol. 6	Vol. 6	N/A	N/A	N/A	•
		Overview and History 概論及び歴史	Vol. 3	Vol. 6	Vol. 2	Vol. 6	Vol. 2	Vol. 3	Vol. 2	Vol. 3	N/A	N/A	N/A	•
Tari MORIGUCHI 森口多里	Craft Art History 工藝美術史	Overview and History 概論及び歴史	Vol. 6	Vol. 3	Vol. 6	Vol. 3	Vol. 6	Vol. 3	Vol. 6	Vol. 6	N/A	N/A	N/A	•
		Overview and History 概論及び歴史	Vol. 3	Vol. 6	Vol. 2	Vol. 6	Vol. 2	Vol. 3	Vol. 2	Vol. 3	N/A	N/A	N/A	•
Shin'ichirō OKADA 岡田信一郎	Decoration method 裝飾法	Overview and History 概論及び歴史	—	—	—	—	—	—	—	—	N/A	N/A	N/A	•
		Overview and History 概論及び歴史	—	—	—	—	—	—	—	—	N/A	N/A	N/A	•

Instructors/ Professors	Subjects	Publication and distribution										Storage statement			
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set I	Set II	Set III	Set IV	
Kyōji YOSHIDA 吉田亨二 Tutomu SAKAI 酒井勉	Construction Materials 建築材料	Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 th -25 th edition 18 volumes	26 th edition 18 volumes	N/A	N/A	N/A	•	
Ryūzō SUZUKI 鈴木隆藏 Masao FUKUSHIMA 福島雅男 Isamu ISHII 石井勇	Structural Dynamics 構造力学	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	•	N/A	•	•	
Tachū NAITŌ, 内藤多仲 Sei KAWAI 河合清	Steel Frame Construction 鉄骨構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	N/A	N/A	N/A	•	
Akira UENAMI 上浪朗	Reinforced Concrete Construction 鉄筋コンクリート	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	N/A	N/A	N/A	•	
Tachū NAITŌ 内藤多仲	Earthquake Resisting Construction 耐震計算	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	N/A	•	N/A	•	
Ichirō ŌSAWA 大澤一郎	Industrial Mathematics 工業数学	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	N/A	N/A	N/A	—	
Masaharu FURUTSUKA 古塚正治	Japanese Home Tectonics 日本家屋構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	Material and Construction 材料及び構造	•	N/A	N/A	•	

Instructors/ Professors	Subjects	Publication and distribution								Storage statement				
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set I	Set II	Set III	Set IV
Yō TOKONAGA 徳永庸	General Architecture Structural Methods 一般構造法	Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 th -25 th edition 18 volumes	26 th edition 18 volumes	•	N/A	N/A	•
Shikasaburō FUJII 藤井鹿三郎	Surveying 測量	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	•	N/A	•	•
Takehiko MATSUMOTO 松本猛彦	Regulations and Application 法規及出願手續	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	•	N/A	—	•
Buichi KIMURA 木村武一	Specification 仕様書	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	•	•	N/A	•
Yuichi INO 猪野勇一	Integration 積算法	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	Implementation Plan 實施計畫	•	N/A	N/A	•
Ryozo BABA 馬場良三	Contract Plan and Equipment 施工計画及設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	•	•	N/A	•
Noriyuki KADOKURA 門倉則之	Lamp Illumination 電灯照明及照明法	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	•	N/A	N/A	•
Shigeya ICHIKAWA 市川繁彌	Architecture Electrical Code 建築電氣工学	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	•	•	N/A	•
Ichirō ŌSAWA 大澤一郎	Mechanical Equipment/Equipment for Building 機械設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	•	•	•	•
Ichirō ŌSAWA 大澤一郎	Sanitation Equipment 衛生設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	Equipment 諸設備	•	•	•	•

Instructors/ Professors	Subjects	Publication and distribution										Storage statement			
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set I	Set II	Set III	Set IV	
Tokimasa DOI 土居寛通	Heating and cooling equipment 暖房冷房設備	Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 th -25 th edition 18 volumes	26 th edition 18 volumes	•	•	•	—	
Shōgo SAKURAI 櫻井省吾	Ventilation equipment 換氣設備	Equipment 諸設備	Vol. 12								•	•	•	•	
Kōichirō KIMURA 木村幸一郎	Drafting Method 製図法	Drawing 製図	Vol. 13								N/A	•	•	•	
Saburō SOSHIRODA 十代田三郎	Perspective Drawing and The Shadow Method 透視図及陰影図法	Drawing 製図	Vol. 13								N/A	•	•	•	
Wajirō KON 今和次郎	Editor 編集者	Drawing 製図	—								N/A	N/A	N/A	—	
Setsurō YAMAMOTO 山本拙郎	Residential Building 住宅	Architecture Plan 建築計画	Vol. 14								N/A	N/A	•	•	
Yoshitaro TAKEUCHI 竹内芳太郎	Apartment House アパートメントハウス	Architecture Plan 建築計画	Vol. 14								•	N/A	•	N/A	
Kenji IMAI 今井兼次	Museum 博物館及美術館	Architecture Plan 建築計画	—								N/A	N/A	—	—	
Kenji IMAI 今井兼次	Library 図書館	Architecture Plan 建築計画	Vol. 15								N/A	N/A	N/A	•	
Yatarō MINE 峰彌太郎	School 学校	Architecture Plan 建築計画	Vol. 14								N/A	•	•	•	
Kōnosuke SASAKI 佐々木孝之助	Shrines and Temples 社寺	Architecture Plan 建築計画	Vol. 8								N/A	N/A	N/A	•	

Instructors/ Professors	Subjects	Publication and distribution										Storage statement			
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set I	Set II	Set III	Set IV	
		Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 th -25 th edition 18 volumes	26 th edition 18 volumes					
Mamoru NAKAMURA 中村鎮	Church 教会	Architecture Plan 建築計画	—	—	—	—	—	—	—	—	—	N/A	N/A	—	—
Kenji IMAI 今井兼次 Yasushi TANABE 田邊泰	Memorial building 記念建造物	Architecture Plan 建築計画	—	—	—	—	—	—	—	—	—	N/A	N/A	—	—
Kyōji YOSHIDA 吉田 亨二 Saburō SOSHIRODA 十代田三郎	Store 商店	Architecture Plan 建築計画	Vol. 14	—	—	—	—	—	—	—	—	N/A	•	•	•
Takeo SATŌ 佐藤武夫	The Department Store 百貨店	Architecture Plan 建築計画	Vol. 15	—	—	—	—	—	—	—	—	•	•	N/A	×
Takeo YASUI 安井武雄	Bank 銀行	Architecture Plan 建築計画	Vol. 15	—	—	—	—	—	—	—	—	•	N/A	N/A	•
Tachū NAITŌ 内藤多仲	Factory Building 工場	Architecture Plan 建築計画	Vol. 16	—	—	—	—	—	—	—	—	•	•	•	•
Katsunari KITAMURA 北村勝成	Warehouse 倉庫	Architecture Plan 建築計画	Vol. 16	—	—	—	—	—	—	—	—	•	•	•	•
Yoshikiyo SATŌ 佐藤良清	Office Building 貸事務所	Architecture Plan 建築計画	Vol. 16	—	—	—	—	—	—	—	—	N/A	•	•	•
Gennosuke ŌSAWA 大澤源之助	Hospital Building 病院	Architecture Plan 建築計画	Vol. 17	—	—	—	—	—	—	—	—	N/A	N/A	N/A	•
Takeo SATŌ 佐藤武夫 Katsumi NAKAYAMA 中山克巳	Theatre and Cinema 劇場及映画館	Architecture Plan 建築計画	Vol. 15	—	—	—	—	—	—	—	—	•	N/A	N/A	•

Instructors/ Professors	Subjects	Publication and distribution								Storage statement				
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set I	Set II	Set III	Set IV
Takeo YASUI 安井武雄	Clubs 倶楽部	Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 th -25 th edition 18 volumes	26 th edition 18 volumes	N/A	N/A	N/A	N/A
Kyōji YOSHIDA 吉田 亨二	Hotel and Restaurant ホテル及レストラン	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Vol. 17	Vol. 17	Vol. 17	Vol. 17
Yoshi NIWA 丹羽美	Automobile Garage 自動車庫	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Architecture Plan 建築計画	Vol. 16	Vol. 16	Vol. 16	Vol. 16
Kyōji YOSHIDA 吉田 亨二	Architectural durability 建築の耐久性	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	—	—	—	—
Kyōji YOSHIDA 吉田 亨二 Gisaburo SHIRATORI 白鳥義三郎	Urban Planning 都市計画	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Vol. 18	Vol. 18	Vol. 18	Vol. 18
Takeo SATŌ 佐藤武夫	Architectural Acoustics 建築音響	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Vol. 18	Vol. 18	Vol. 18	Vol. 18
Kōchirō KIMURA 木村幸一郎	Sun Light and Lighting 日照及採光	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Vol. 18	Vol. 18	Vol. 18	Vol. 18
Takuma TONO 戸野琢磨	Garden 庭園	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Vol. 17	Vol. 17	Vol. 17	Vol. 17
Tōgo MURANO 村野藤吾	Economic Problems of Building 建築の経済問題	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Vol. 18	Vol. 18	Vol. 18	Vol. 18
Kōchirō KIMURA 木村幸一郎	Tearoom 茶室	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Special Lecture (Appendix) 特別講義	Vol. 17	Vol. 17	Vol. 17	Vol. 17
Toraō SAITŌ 斎藤寅雄	Modern Architecture Guidance Theory 近代建築指導論	—	—	—	—	—	—	—	—	—	Vol. 14	Vol. 14	Vol. 14	Vol. 14

Instructors/ Professors	Subjects	Publication and distribution								Storage statement				
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set I	Set II	Set III	Set IV
Fuminaga KIYOTA 清田文永	Airport 空港	Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 ^{th-25thedition 18 volumes}	26 th edition 18 volumes	N/A	N/A	—	•
Tamotsu NAKAO 中尾 保	Athletic Field 陸上競技場	—	—	—	—	Vol. 16	—	—	—	—	N/A	N/A	—	—
Masafumi ITÔ 伊藤正文	Sanitation Engineering 衛生工学	—	—	—	—	—	Vol. 17	—	—	Vol. 12	N/A	N/A	—	•
Tsutomu HIDEHIMA 秀島乾	Manchuria Architecture 満洲建築	—	—	—	—	—	—	—	—	Vol. 12	N/A	N/A	—	•
Takuma TONO 戸野琢磨	Western Countries Garden 西洋庭園	—	—	—	—	—	—	—	—	Vol. 13	N/A	N/A	—	•
Sadao KAWASHIMA 川島貞夫	Architectural Vibration 建築振動	—	—	—	—	—	—	—	—	Vol. 13	N/A	N/A	—	•
Asahi KAGAWA 監川旭	Power Station Building 発電所建築	—	—	—	—	—	—	—	—	Vol. 15	N/A	N/A	—	•
Kōichi SUGIURA 杉浦康一	Physical Education Facility 体育館施設	—	—	—	—	—	—	—	—	Vol. 16	N/A	N/A	—	•
Asahi KAGAWA 監川旭	Drilling Building 工場	—	—	—	—	—	—	—	—	Vol. 16	N/A	N/A	—	•
Kosuke HISHIDA 菱田康介 Ken'ichi USUI 白井健一	Air Defense Facility 防空設備	—	—	—	—	—	—	—	—	Vol. 17	N/A	N/A	—	•

Instructors/ Professors	Subjects	Publication and distribution										Storage statement			
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set I	Set II	Set III	Set IV	
Yoshitaro TAKEUCHI 竹内義太郎	Rural Facility 農村施設	Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 th -25 th edition 18 volumes	26 th edition 18 volumes	N/A	N/A	—	N/A	
		—	—	—	—	—	—	—	—	—	—	—	—	—	

The original edition, the second edition and the third edition were published in 6 volumes including Overview and History, Material and Construction, Implementation Plan, Equipment, Drawing and Architecture Plan. (Special Lecture is appendix.) From the fourth edition to the final edition were published 18 volumes. The professors in table 2 were the original professors. The variations of professors show from table 3.7 to table 3.10.

—: None exist

N/A: Not applicable

●: Collected

(Please see the appendix for a larger version)

Table 3.3. Publication and distribution of the *Waseda Architectural Lecture Notes* (English).

Instructors/ Professors	Subjects	Publication and distribution										Storage statement			
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set 1	Set II	Set III	Set IV	
Kōichi SATŌ	Architecture Outline	Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 th -25 th edition 18 volumes	26 th edition 18 volumes	N/A	N/A	N/A	•	
Chūta ITŌ	Orient Architectural History Outline	Overview and History	Overview and History	Overview and History	Vol. 6	Vol. 3	Vol. 6	Vol. 3	Vol. 10	Vol. 1	N/A	N/A	N/A	•	
Kōichi SATŌ Mamoru NAKAMURA	Western Countries Architectural History (1) Western Countries Architectural History (2)	Overview and History	Overview and History	Overview and History	Vol. 2 Vol. 3	Vol. 2 Vol. 6	Vol. 2 Vol. 3	Vol. 2 Vol. 3	Vol. 2 Vol. 3	Vol. 2	N/A	N/A	N/A	•	
Yasushi TANABE	Japanese Architectural History	Overview and History	Overview and History	Overview and History	Vol. 6	Vol. 2	Vol. 2	Vol. 2	Vol. 1	Vol. 1	N/A	N/A	N/A	•	
Wajirō KON	Configuration Art Argument	Overview and History	Overview and History	Overview and History	Vol. 6	Vol. 3	Vol. 13	Vol. 13	Vol. 18	Vol. 18	N/A	N/A	•	N/A	
Kenji IMAI	Modern Architecture Outline	Overview and History	Overview and History	Overview and History	Vol. 6	Vol. 3	Vol. 3	Vol. 6	Vol. 6	—	N/A	N/A	•	—	
Tari MORIGUCHI	Craft Art History	Overview and History	Overview and History	Overview and History	Vol. 6	Vol. 3	Vol. 3	Vol. 6	Vol. 6	—	N/A	N/A	•	—	
Shin'ichirō OKADA	Decoration method	Overview and History	Overview and History	Overview and History	—	—	—	—	—	—	N/A	N/A	—	—	
Kyōji YOSHIDA Tsutomu SAKAI	Construction Materials	Material and Construction	Material and Construction	Material and Construction	Vol. 4	Vol. 4	Vol. 4	Vol. 4	Vol. 4	Vol. 4	N/A	N/A	N/A	•	
Ryūzō SUZUKI Masao FUKUSHIMA Isamu ISHII	Structural Dynamics	Material and Construction	Material and Construction	Material and Construction	Vol. 5	Vol. 5	Vol. 5	Vol. 5	Vol. 5	Vol. 6	•	N/A	•	•	
Tachū NAITŌ Sei KAWAI	Steel Frame Construction	Material and Construction	Material and Construction	Material and Construction	Vol. 7	Vol. 7	Vol. 7	Vol. 7	Vol. 7	Vol. 7	N/A	N/A	N/A	•	

Instructors/ Professors	Subjects	Publication and distribution								Storage statement			
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set I	Set II	Set III
	Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 th -25 th edition 18 volumes	26 th edition 18 volumes				
Akira UENAMI	Reinforced Concrete Construction		Material and Construction	Vol. 7						N/A	N/A	N/A	•
Tachū NAITŌ	Earthquake Resisting Construction		Material and Construction	Vol. 7					Vol. 6	N/A	•	N/A	•
Ichirō ŌSAWA	Industrial Mathematics		Material and Construction	Vol. 1					—	N/A	N/A	N/A	—
Masaharu FURUTSUKA	Japanese Home Tectonics		Material and Construction	Vol. 8					Vol. 10	•	N/A	N/A	•
Yō TOKONAGA	General Architecture Structural Methods		Material and Construction	Vol. 1					Vol. 5	•	N/A	N/A	•
Shikasaburō FUJII	Surveying		Implementation Plan	Vol. 12					Vol. 3	•	N/A	•	•
Takeshihiko MATSUMOTO	Regulations and Application		Implementation Plan	Vol. 10					Vol. 13	•	N/A	—	•
Buichi KIMURA	Specification		Implementation Plan	Vol. 10					Vol. 11	•	•	N/A	•
Yuichi INO	Integration		Implementation Plan	Vol. 10					Vol. 11	•	N/A	N/A	•
Ryozo BABA	Contract Plan and Equipment		Equipment	Vol. 9					Vol. 11	•	•	N/A	•
Noriyuki KADOKURA	Lamp Illumination		Equipment	Vol. 9					Vol. 12	•	N/A	N/A	•
Shigeya ICHIKAWA	Architecture Electrical Code		Equipment	Vol. 9					Vol. 8	•	•	N/A	•
Ichirō ŌSAWA	Mechanical Equipment/Equipment for Building		Equipment	Vol. 11					Vol. 8	•	•	•	•
Ichirō ŌSAWA	Sanitation Equipment		Equipment	Vol. 11					Vol. 9	•	•	•	•

Instructors/ Professors	Subjects	Publication and distribution										Storage statement			
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set I	Set II	Set III	Set IV	
Tokimasa DOI	Heating and cooling equipment	Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 th -25 th edition 18 volumes	26 th edition 18 volumes	•	•	•	—	
Shōgo SAKURAI	Ventilation equipment	Equipment	Equipment	Equipment	Vol. 12	Vol. 12	Vol. 12	Vol. 12	Vol. 9	Vol. 9	•	•	•	•	
Kōichirō KIMURA Saburō SOSHIRODA	Drafting Method	Drawing	Drawing	Drawing	Vol. 13	Vol. 13	Vol. 13	Vol. 13	Vol. 3	Vol. 3	N/A	•	•	•	
Wajirō KON	Perspective Drawing and The Shadow Method	Drawing	Drawing	Drawing	Vol. 13	Vol. 13	Vol. 13	Vol. 13	Vol. 3	Vol. 3	N/A	N/A	•	•	
Editor	Architectural drawing	Drawing	—	—	—	—	—	—	—	—	N/A	N/A	N/A	—	
Setsurō YAMAMOTO	Residential Building	Architecture Plan	Architecture Plan	Architecture Plan	Vol. 14	Vol. 14	Vol. 14	Vol. 14	Vol. 14	Vol. 14	N/A	N/A	•	•	
Yoshitaro TAKEUCHI	Apartment House	Architecture Plan	Architecture Plan	Architecture Plan	Vol. 14	Vol. 14	Vol. 14	Vol. 14	Vol. 18	Vol. 18	•	N/A	•	N/A	
Kenji IMAI	Museum	Architecture Plan	Architecture Plan	Architecture Plan	—	—	—	—	—	—	N/A	N/A	—	—	
Kenji IMAI	Library	Architecture Plan	Architecture Plan	Architecture Plan	Vol. 15	Vol. 15	Vol. 15	Vol. 15	Vol. 16	Vol. 16	N/A	N/A	N/A	•	
Tarō MINAMINE	School	Architecture Plan	Architecture Plan	Architecture Plan	Vol. 14	Vol. 14	Vol. 14	Vol. 14	Vol. 16	Vol. 16	N/A	•	•	•	
Konosuke SASAKI	Shrines and Temples	Architecture Plan	Architecture Plan	Architecture Plan	Vol. 8	Vol. 8	Vol. 8	Vol. 8	Vol. 10	Vol. 10	N/A	N/A	N/A	•	
Mamoru NAKAMURA	Church	Architecture Plan	Architecture Plan	Architecture Plan	—	—	—	—	—	—	N/A	N/A	—	—	
Kenji IMAI Yasushi TANABE	Memorial building	Architecture Plan	Architecture Plan	Architecture Plan	—	—	—	—	—	—	N/A	N/A	—	—	
Kyōji YOSHIDA Saburō SOSHIRODA	Store	Architecture Plan	Architecture Plan	Architecture Plan	Vol. 14	Vol. 14	Vol. 14	Vol. 14	Vol. 17	Vol. 17	N/A	•	•	•	
Takeo SATŌ	The Department Store	Architecture Plan	Architecture Plan	Architecture Plan	Vol. 15	Vol. 15	Vol. 15	Vol. 15	—	—	•	•	N/A	×	
Takeo YASUI	Bank	Architecture Plan	Architecture Plan	Architecture Plan	Vol. 15	Vol. 15	Vol. 15	Vol. 15	Vol. 17	Vol. 17	•	N/A	N/A	•	
Tachū NAITŌ	Factory Building	Architecture Plan	Architecture Plan	Architecture Plan	Vol. 16	Vol. 16	Vol. 16	Vol. 16	Vol. 15	Vol. 15	•	•	•	•	

Instructors/ Professors	Subjects	Publication and distribution										Storage statement			
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set I	Set II	Set III	Set IV	
Katsumari KITAMURA	Warehouse	Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 ^{th-25th}	26 th edition 18 volumes	•	•	•	•	
Yoshikiyo SATŌ	Office Building	Architecture Plan	Vol. 16	Vol. 16	Vol. 16	Vol. 16	Vol. 16	Vol. 16	Vol. 16	Vol. 16	N/A	•	•	•	
Gennosuke ŌSAWA	Hospital Building	Architecture Plan	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	N/A	N/A	N/A	•	
Takeo SATŌ Katsumi NAKAYAMA	Theatre and Cinema	Architecture Plan	Vol. 15	Vol. 15	Vol. 15	Vol. 15	Vol. 15	Vol. 15	Vol. 15	Vol. 15	•	N/A	N/A	•	
Takeo YASUI	Clubs	Architecture Plan	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	N/A	N/A	N/A	N/A	
Kyōji YOSHIDA	Hotel and Restaurant	Architecture Plan	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	•	N/A	N/A	•	
Mi NIWA	Automobile Garage	Architecture Plan	Vol. 16	Vol. 16	Vol. 16	Vol. 16	Vol. 16	Vol. 16	Vol. 16	Vol. 16	•	N/A	•	—	
Kyōji YOSHIDA	Architectural durability	Special Lecture (Appendix)	—	—	—	—	—	—	—	—	N/A	N/A	—	—	
Kyōji YOSHIDA Gisaburo SHIRATORI	Urban Planning	Special Lecture (Appendix)	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	•	N/A	•	—	
Takeo SATŌ	Architectural Acoustics	Special Lecture (Appendix)	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	•	•	•	•	
Kōichirō KIMURA	Sun Light and Lighting	Special Lecture (Appendix)	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	•	N/A	•	•	
Takuma TONO	Garden	Special Lecture (Appendix)	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	N/A	N/A	N/A	•	
Tōgo MURANO	Economic Problems of Building	Special Lecture (Appendix)	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	Vol. 18	•	N/A	—	N/A	
Kōichirō KIMURA	Tearoom	Special Lecture (Appendix)	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	Vol. 17	N/A	N/A	N/A	•	
Toraō SAITŌ	Modern Architecture Guidance Theory	—	Vol. 14	—	—	—	—	—	—	—	N/A	N/A	—	—	
Fuminaga KIYOTA	Airport	—	Vol. 16	—	—	—	—	—	—	—	N/A	N/A	—	•	

Instructors/ Professors	Subjects	Publication and distribution								Storage statement				
		Oct. 1929	Apr. 1930	Oct. 1930	Apr. 1931	Oct. 1931	Apr. 1932	Oct. 1932	Apr. 1933- Apr. 1942	Oct. 1942	Set I	Set II	Set III	Set IV
Tamotsu NAKAO	Athletic Field	Original edition 6 volumes	1 st edition 6 volumes	2 nd edition 6 volumes	3 rd edition 18 volumes	4 th edition 18 volumes	5 th edition 18 volumes	6 th edition 18 volumes	7 th -25 th edition 18 volumes	26 th edition 18 volumes	N/A	N/A	—	—
Masafumi ITÔ	Sanitation Engineering	—	—	—	—	—	—	—	—	Vol. 12	N/A	N/A	—	•
Tsutomu HIDEISHIMA	Manchuria Architecture	—	—	—	—	—	—	—	—	Vol. 12	N/A	N/A	—	•
Takuma TONO	Western Countries Garden	—	—	—	—	—	—	—	—	Vol. 13	N/A	N/A	—	•
Sadao KAWASHIMA	Architectural Vibration	—	—	—	—	—	—	—	—	Vol. 13	N/A	N/A	—	•
Asahi KAGAWA	Power Station Building	—	—	—	—	—	—	—	—	Vol. 15	N/A	N/A	—	•
Kôichi SUGIURA	Physical Education Facility	—	—	—	—	—	—	—	—	Vol. 16	N/A	N/A	—	•
Asahi KAGAWA	Drilling Building	—	—	—	—	—	—	—	—	Vol. 16	N/A	N/A	—	•
Kosuke HISHIDA Ken'ichi USUI	Air Defense Facility	—	—	—	—	—	—	—	—	Vol. 17	N/A	N/A	—	•
Yoshitaro TAKEUCHI	Rural Facility	—	—	—	—	—	—	—	—	Vol. 18	N/A	N/A	—	N/A

The original edition, the second edition and the third edition were published in 6 volumes including Overview and History, Material and Construction, Implementation Plan, Equipment, Drawing and Architecture Plan. (Special Lecture is appendix.) From the fourth edition to the final edition were published 18 volumes. The professors in table 2 were the original professors. The variations of professors show from table 3.7 to table 3.10.

—: None exist

N/A: Not applicable

•: Collected

(Please see the appendix for a larger version)

Table 3.4 *Waseda University Architecture Lecture Notes* of 7th – 25th.

Number	Title	Instructors/Professors	Pages
1	General Architecture Structural Methods 一般構造法	Yō TOKUNAGA 徳永庸	235
	Industrial mathematics 工業数学	Ichirō ŌSAWA 大澤一郎	85
2	Japanese Architectural History 日本建築史	Yasushi TANABE 田邊泰	195
	Western Countries Architectural History (1) 西洋建築史 (上)	Kōichi SATŌ 佐藤功一 Mamoru NAKAMURA 中村鎮	95
3	Western Countries Architectural History (2) 西洋建築史 (下)	Kōichi SATŌ 佐藤功一 Mamoru NAKAMURA 中村鎮	130
	Orient Architectural History Outline 東洋建築史	Chūta ITŌ 伊東忠太	170
4	Construction Materials 建築材料	Kyōji YOSHIDA 吉田享二	320
5	Structural Dynamics 構造力学	Ryūzō SUZUKI 鈴木隆藏 Masao FUKUSHIMA 福島雅男 Isamu ISHII 石井勇	315
6	Modern Architecture Outline 近代建築概論	Kenji IMAI 今井兼次	150
	Craft Art History 工芸美術史	Tari MORIGUCHI 森口多里	100
7	Steel Frame Construction 鉄骨構造	Tachū NAITŌ 内藤多仲 Sei KAWAI 河合清	110
	Reinforced Concrete Construction 鉄筋 コンクリート	Akira UENAMI 上浪郎	160
	Earthquake Resisting Construction 耐震計算	Tachū NAITŌ 内藤多仲	55
8	Japanese Home Tectonics 日本家屋構造	Masaharu FURUTSUKA 古塚正治	170
	Shrines and Temples 社寺	Kōnosuke SASAKI 佐々木孝之助	145
9	Lamp Illumination 電灯照明及照明法	Noriyuki KADOKURA 門倉則之	70
	Architecture Electrical Constructions 建築電気工事	Shigeru ICHIGAWA 市川繁彌	80
	Contract Plan and Equipment 施工計画及設備	Ryozo BABA 馬場良三	110

Chapter 3
About the *Waseda Architectural Lecture Notes*

Number	Title	Instructors/Professors	Pages
10	Specification 仕様書	Buichi KIMURA 木村武一	70
	Integration 積算法	Yuichi INO 猪野勇一	100
	Architecture Outline 建築汎輪	Kōichi SATŌ 佐藤功一	65
11	Mechanical Equipment/Equipment for Building 機械設備	Ichirō ŌSAWA 大澤一郎	160
	Sanitation Equipment 衛生設備	Ichirō Ōsawa 大澤一郎	200
12	Heating and cooling equipment 暖房冷房設備	Tokimasa DOI 土居寛通	120
	Ventilation equipment 換気設備	Shōgo SAKURAI 櫻井省吾	50
	Surveying 測量	Shikasaburō FUJII 藤井鹿三郎	100
13	Configuration Art Argument 構成美論	Wajirō KON 今和次郎	80
	Drafting Method 製図法	Kōichirō KIMURA 木村幸一郎 Saburō SOSHIRODA 十代田三郎	70
	Perspective Drawing and The Shadow Method 透視図及陰影図法	Wajirō KON 今和次郎	90
14	Housing and Housing Policy 住宅	Katashi YASUDA 安田孝志	55
	Apartment House アパートメントハウス	Yoshitaro TAKEUCHI 竹内芳太郎	85
	Store 商店	Kyōji YOSHIDA 吉田享二 Saburō SOSHIRODA 十代田三郎	70
	School 学校	Yatarō MINE 峰彌太郎	60
15	Library 図書館	Kenji IMAI 今井兼次	70
	Theatre and Cinema 劇場及映画館	Takeo SATŌ 佐藤武夫	75
	The Department Store 百貨店	Takeo SATŌ 佐藤武夫	50
	Bank 銀行	Takeo YASUI 安井武雄	75
16	Automobile Garage 自動車庫	Yoshi NIWA 丹羽美	65
	Factory Building 工場	Tachū NAITŌ 内藤多仲	55

Number	Title	Instructors/Professors	Pages
	Warehouse 倉庫	Katsunari KITAMURA 北村勝成	60
	Office Building 貸事務所	Yoshikiyo SATŌ 佐藤良清	60
17	Tearoom 茶室	Kōichirō KIMURA 木村幸一郎	20
	Hospital Building 病院	Gennosuke ŌSAWA 大澤源之助	70
	Western Countries Garden 庭園	Takuma TONO 戸野琢磨	50
	Club 倶楽部	Takeo YASUI 安井武雄	50
	Hotel and Restaurant ホテル及レストラン	Kyōji YOSHIDA 吉田享二	50
18	Architectural Acoustics 建築音響	Takeo SATŌ 佐藤武夫	50
	Urban Planning 都市計画	Kyōji YOSHIDA 吉田享二 Gisaburo SHIRATORI 白鳥義三郎	90
	Sun Light and Lighting 日照及び採光	Kōichirō KIMURA 木村幸一郎	75

In summary, the *Waseda Architectural Lecture Notes* were written and compiled by professors from the Waseda University Department of Architecture and were published by the Waseda University Press. Each volume of the notes consisted of the typical textbook materials, short essays written by professors, introductory articles on architecture topics, and the editors' afterword. Architecture topics were a daily practice to insert breaks in each lesson and provide light architecture-related facts to off-campus students. For providing extra-curricular knowledge to off-campus students, short essays written by professors were posted, and the editorial department was responsible for incorporating current events. The textbook materials covered various topics, including history, materials and tectonics, construction, equipment, drawing, design, as well as a few special lectures. All the subjects were consolidated in 18 volumes. Assignments between the volumes depended on the issue's contents: some might take up one or two volumes, while others with fewer contents were compiled into one single volume. The off-campus students had the freedom to pick the valuable volume(s) for purchasing.

3.3 Collection and Storage

Figure 3.7, table 3.4, table 3.5 and table 3.6 below summarize the research results from a detailed search through Waseda University. The *Waseda Architectural Lecture Notes* are now collected and shelved in five different locations. Waseda Architectural Archive of Architecture History Laboratory has 50 sets of combined versions in separate packages, Large Seminar Room of Department of Architecture has four volumes, Nagoya University has 15 volumes. Kyoto Institute of Technology has ten volumes. All the lecture notes, except for those stored at Nagoya University and Kyoto Institute of Technology, were collected, and analyzed in detail, including the original contents, the advertisements attached, the editors' afterword, etc., to track and chronicle each of the volumes.

Table 3.5 Lecture notes published during Taishō Period and early Shōwa Period.

Set	Book	Location	Volumes
I	<i>Suzuki Collection</i>	Waseda Architectural Archive in Architecture History Laboratory	8
II	<i>No Cover Collection</i>	Waseda Architectural Archive in Architecture History Laboratory	18
III	<i>Waseda University Architecture Lecture Notes Shōwa 15th</i>	Waseda Architectural Archive in Architecture History Laboratory	8
IV	<i>Waseda University Architecture Lecture Notes Shōwa 17th</i>	Waseda Architectural Archive in Architecture History Laboratory	16
V	<i>Waseda University Architecture Lecture Notes</i>	Collected by the author	9
VI	<i>Waseda Architectural Lecture Notes</i>	Waseda Architectural Archive in Architecture History Laboratory	4
VII	<i>Waseda Architectural Lecture Notes</i>	Nagoya University	15
VIII	<i>Waseda Architectural Lecture Notes</i>	Kyoto Institute of Technology Library	10

Table 3.6 The *Waseda Architectural Lecture Notes* publication.

Book	Print	Publish	Editor	Printer	Publisher	Printing Office
<i>Waseda Architecture Lecture Notes 9</i>	Shōwa 11 th , Dec. 7 th	Shōwa 11 th , Dec. 10 th	Jun'ichi AOYAGI	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda Architecture Lecture Notes 4</i>	Shōwa 12 th , Jan. 7 th	Shōwa 12 th , Jan. 10 th	Jun'ichi AOYAGI	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda Architecture Lecture Notes 5</i>	Shōwa 12 th , Feb. 7 th	Shōwa 12 th , Feb. 10 th	Jun'ichi AOYAGI	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda Architecture Lecture Notes 7</i>	Shōwa 12 th , Oct. 7 th	Shōwa 12 th , Oct. 10 th	Yoshio ŌTANI	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 15th 5</i>	Shōwa 15 th , Aug. 7 th	Shōwa 15 th , Aug. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 15th 6</i>	Shōwa 15 th , Sept. 5 th	Shōwa 15 th , Sep. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 15th 11</i>	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
<i>Waseda University Architectural Lecture Notes Shōwa 15th 12</i>	Shōwa 16 th , Mar. 5 th	Shōwa 16 th , Mar. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 15th 13</i>	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
<i>Waseda University Architectural Lecture Notes Shōwa 15th 14</i>	Shōwa 16 th , May. 5 th	Shōwa 16 th , May. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 15th 16</i>	Shōwa 16 th , Jul. 5 th	Shōwa 16 th , Jul. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 15th 18</i>	Shōwa 16 th , Sept. 5 th	Shōwa 16 th , Sep. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 1</i>	Shōwa 17 th , Oct. 5 th	Shōwa 17 th , Oct. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 2</i>	Shōwa 17 th , Nov. 5 th	Shōwa 17 th , Nov. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 3</i>	Shōwa 17 th , Dec. 5 th	Shōwa 17 th , Dec. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda University Press	Japan Printing Co., Ltd. Enokimachi Factory

Book	Print	Publish	Editor	Printer	Publisher	Printing Office
<i>Waseda University Architectural Lecture Notes Shōwa 17th 4</i>	Shōwa 18 th , Jan. 5 th	Shōwa 18 th , Jan. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 5</i>	Shōwa 18 th , Fer. 5 th	Shōwa 18 th , Fer. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 6</i>	Shōwa 18 th , Mar. 5 th	Shōwa 18 th , Mar. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 7</i>	Shōwa 18 th , Apr. 5 th	Shōwa 18 th , Apr. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 8</i>	Shōwa 18 th , May. 5 th	Shōwa 18 th , May. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 9</i>	Shōwa 18 th , Jun. 5 th	Shōwa 18 th , Jun. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 10</i>	Shōwa 18 th , Jul. 5 th	Shōwa 18 th , Jul. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 11</i>	Shōwa 18 th , Aug. 5 th	Shōwa 18 th , Aug. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 12</i>	Shōwa 18 th , Sept. 5 th	Shōwa 18 th , Sept. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 13</i>	Shōwa 18 th , Oct. 5 th	Shōwa 18 th , Oct. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 14</i>	Shōwa 18 th , Nov. 5 th	Shōwa 18 th , Nov. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 15</i>	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
<i>Waseda University Architectural Lecture Notes Shōwa 17th 16</i>	Shōwa 19 th , Jan. 5 th	Shōwa 19 th , Jan. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory
<i>Waseda University Architectural Lecture Notes Shōwa 17th 17</i>	Shōwa 19 th , Fer. 5 th	Shōwa 19 th , Fer. 10 th	Kiyoshige AZUMA	Yoshimitsu IGARASHI	Waseda Press	Japan Printing Co., Ltd. Enokimachi Factory

Table 3.7 Specific subject table of 63 collected volumes.

Set	Number •	Book	Catalogue		
			Japanese Home Tectonics 日本家屋構造	General Structural Methods 一般構造法	Structural Dynamics 構造力学
I	1	<i>Suzuki Collection</i> 『鈴木藏書』			
	2	<i>Suzuki Collection</i> 『鈴木藏書』	Sun Light and Lighting 日照及び採光	Lamp Illumination 電灯照明及照明法	Architectural Acoustics 建築音響
	3	<i>Suzuki Collection</i> 『鈴木藏書』	Surveying 測量		
	4	<i>Suzuki Collection</i> 『鈴木藏書』	Specification 仕様書	Integration 積算法	
	5	<i>Suzuki Collection</i> 『鈴木藏書』	Urban Planning 都市計画	Regulations and Application 法規及出願手続き	Economic Problems of Building 建築の経済問題
	6	<i>Suzuki Collection</i> 『鈴木藏書』	Sanitation Equipment 衛生設備	Ventilation equipment 換気設備	Mechanical Equipment 機械設備
	7	<i>Suzuki Collection</i> 『鈴木藏書』	Heating and cooling equipment 暖房冷房設備	Contract Plan and Equipment 施工計画及設備	Architecture Electrical Code 建築電気工事
	8	<i>Suzuki Collection</i> 『鈴木藏書』	Factory 工場	Warehouse 倉庫	Automobile Garage 自動車庫
II	1	<i>No cover</i>	Bank 銀行	The Department Store 百貨店	Theatre and Cinema 劇場及映画館
	2	<i>No cover</i>	Hotel and Restaurant ホテル及レストラン	Apartment House アパートメントハウス	
	3	<i>No cover</i>	Appendix 建築一言		
	4	<i>No cover</i>	Office Building 貸事務所		
	5	<i>No cover</i>	Earthquake Resisting Construction 耐震計算		
	6	<i>No cover</i>	Architecture Electrical Code 建築電気工事		
	7	<i>No cover</i>	Contract Plan and Equipment 施工計画及設備		
	8	<i>No cover</i>			

Set	Number •	Book	Catalogue	
	5	No cover	Specification 仕様書	
	6	No cover	Mechanical Equipment 機械設備	
	7	No cover	Sanitation Equipment 衛生設備	
	8	No cover	Heating and cooling equipment 暖房冷房設備	
	9	No cover	Drafting Method 製図法	
	10	No cover	Store 商店	
	11	No cover	School 学校	
	12	No cover	Ventilation equipment 換氣設備	
	13	No cover	The Department Store 百貨店	
	14	No cover	Factory 工場	
	15	No cover	Warehouse 倉庫	
	16	No cover	Architectural Acoustics 建築音響	
	17	No cover	Appendix 建築一言	
	18	No cover	Appendix 建築一言	
III	1	<i>Waseda University Architectural Lecture Notes Shōwa 15th 5</i> 『早稲田大学 建築講義 昭和 15 年 5』	Structural Dynamics 構造力学	

Set	Number •	Book	Catalogue		
			Modern Architecture Outline 近代建築概論	Craft Art History 工芸美術史	
	2	<i>Waseda University Architectural Lecture Notes Shōwa 15th 6</i> 『早稲田大学 建築講義 昭和 15 年 6』		Craft Art History 工芸美術史	
	3	<i>Waseda University Architectural Lecture Notes Shōwa 15th 11</i> 『早稲田大学 建築講義 昭和 15 年 11』	Mechanical Equipment/Equipment for Building 機械設備	Sanitation Equipment 衛生設備	
	4	<i>Waseda University Architectural Lecture Notes Shōwa 15th 12</i> 『早稲田大学 建築講義 昭和 15 年 12』	Heating and cooling equipment 暖房及冷房設備	Ventilation equipment 換気設備	Surveying 測量
	5	<i>Waseda University Architectural Lecture Notes Shōwa 15th 13</i> 『早稲田大学 建築講義 昭和 15 年 13』	Configuration Art Argument 構成美論	Drafting Method 製図法	Perspective Drawing and The Shadow Method 透視図及陰影法
	6	<i>Waseda University Architectural Lecture Notes Shōwa 15th 14</i> 『早稲田大学 建築講義 昭和 15 年 14』	Residential Building 住宅	Store 商店	School 学校
	7	<i>Waseda University Architectural Lecture Notes Shōwa 15th 16</i> 『早稲田大学 建築講義 昭和 15 年 16』	Apartment House アパートメントハウス	Factory 工場	Warehouse 倉庫
	8	<i>Waseda University Architectural Lecture Notes Shōwa 15th 18</i> 『早稲田大学 建築講義 昭和 15 年 18』	Automobile Garage 自動車庫	Office Building 貸事務所	
	1	<i>Waseda University Architectural Lecture Notes Shōwa 17th 1</i> 『早稲田大学 建築講義 昭和 17 年 1』	Urban Planning 都市計画	Architectural Acoustics 建築音響	Sun Light and Lighting 日照及採光
IV	2	<i>Waseda University Architectural Lecture Notes Shōwa 17th 2</i> 『早稲田大学 建築講義 昭和 17 年 2』	Architecture Outline 建築汎論	Japanese Architectural History 日本建築史	
	3	<i>Waseda University Architectural Lecture Notes Shōwa 17th 4</i> 『早稲田大学 建築講義 昭和 17 年 4』	Orient Architectural History Outline 東洋建築史概説	Western Countries Architectural History 西洋建築史	
			Construction Materials 建築材料	Architectural Surveying 建築測量	

Set	Number •	Book	Catalogue		
			General Architecture Structural Methods 建築構造一般	Earthquake Resisting Construction 耐震構造	
	4	<i>Waseda University Architectural Lecture Notes Shōwa 17th 5</i> 『早稲田大学 建築講義 昭和 17 年 5』	Structural Dynamics 構造力学	Reinforced Concrete Construction 鉄筋コンクリート構造	Steel Frame Construction 鉄骨構造
	5	<i>Waseda University Architectural Lecture Notes Shōwa 17th 6</i> 『早稲田大学 建築講義 昭和 17 年 6』	Wooden Structure 木構造		
	6	<i>Waseda University Architectural Lecture Notes Shōwa 17th 7</i> 『早稲田大学 建築講義 昭和 17 年 7』	Electric Welding 電気溶接		
	7	<i>Waseda University Architectural Lecture Notes Shōwa 17th 8</i> 『早稲田大学 建築講義 昭和 17 年 8』	Architecture Electrical Code 建築電気工事	Mechanical Equipment 建築機械設備	
	8	<i>Waseda University Architectural Lecture Notes Shōwa 17th 9</i> 『早稲田大学 建築講義 昭和 17 年 9』	Air Conditioning Method 空気調整法	Sanitation Equipment 衛生設備	
	9	<i>Waseda University Architectural Lecture Notes Shōwa 17th 10</i> 『早稲田大学 建築講義 昭和 17 年 10』	Japanese Home Tectonics 日本家屋構造	Shrines and Temples 社寺	
	10	<i>Waseda University Architectural Lecture Notes Shōwa 17th 11</i> 『早稲田大学 建築講義 昭和 17 年 11』	Contract Plan and Equipment 施工計画及設備	Specification 仕様書	Integration 見積法
	11	<i>Waseda University Architectural Lecture Notes Shōwa 17th 12</i> 『早稲田大学 建築講義 昭和 17 年 12』	Sun Light and Lighting 日照、採光及照明	Sanitation Engineering 保健工学	Manchuria Architecture 満州建築
	12	<i>Waseda University Architectural Lecture Notes Shōwa 17th 13</i> 『早稲田大学 建築講義 昭和 17 年 13』	Western Countries Garden 西洋庭園	Architectural Acoustics 建築音響	Architectural Vibration 建築振動
	13	<i>Waseda University Architectural Lecture Notes Shōwa 17th 14</i> 『早稲田大学 建築講義 昭和 17 年 14』	Architectural Regulations Outline 建築法規概論	Japanese-Style Garden 日本庭園	
			Housing and Housing Policy 住宅と住宅政策	Theatre and Cinema 劇場及映画館	Tearoom 茶室

Set	Number •	Book	Catalogue		
			Factory Building 工場建築	Power Plant Building 発電所建築	Hotel and Restaurant ホテル及レストラン
	14	<i>Waseda University Architectural Lecture Notes Shōwa 17th 15</i> 『早稲田大学 建築講義 昭和 17 年 15』	Office Building 貸事務所		
	15	<i>Waseda University Architectural Lecture Notes Shōwa 17th 16</i> 『早稲田大学 建築講義 昭和 17 年 16』	School Building 学校建築	Library 図書館	Sports Facilities 體育施設
	16	<i>Waseda University Architectural Lecture Notes Shōwa 17th 17</i> 『早稲田大学 建築講義 昭和 17 年 17』	Drilling Building 鑛成建築	Hospital Building 病院建築	
			Store 商店	Warehouse 倉庫	Bank 銀行
			Airport 空港	Air Defense Facility 防空施設	
	1	<i>Waseda University Architectural Lecture Notes 2</i> 『早稲田 建築講義 2』	Orient Architectural History Outline 東洋建築史概説	Western Countries Architectural History 西洋建築史	
	2	<i>Waseda University Architectural Lecture Notes 3</i> 『早稲田 建築講義 3』	Drafting Method 製図法	Perspective Drawing and The Shadow Method 透視図及陰影法	Architectural Surveying 建築測量
	3	<i>Waseda University Architectural Lecture Notes 8</i> 『早稲田 建築講義 8』	Architecture Electrical Code 建築電気工事	Mechanical Equipment 建築機械設備	
	4	<i>Waseda University Architectural Lecture Notes 9</i> 『早稲田 建築講義 9』	Air Conditioning Method 空調調整法	Sanitation Equipment 衛生設備	
	5	<i>Waseda University Architectural Lecture Notes 11</i> 『早稲田 建築講義 11』	Contract Plan and Equipment 施工計画及設備	Specification 仕様書	Integration 見積法 (積算法)
	6	<i>Waseda University Architectural Lecture Notes 12</i> 『早稲田 建築講義 12』	Sun Light and Lighting 日照、採光及び照明	Sanitation Engineering 保健工学	Manchuria Architecture 滿州建築
	7	<i>Waseda University Architectural Lecture Notes 13</i> 『早稲田 建築講義 13』	Western Countries Garden 西洋庭園	Architectural Acoustics 建築音響	Architectural Vibration 建築振動
			Architectural Regulations Outline 建築法規概論	Japanese-Style Garden 日本庭園	
	8	<i>Waseda University Architectural Lecture Notes 14</i> 『早稲田 建築講義 14』	Housing and Housing Policy 住宅と住宅政策	Theatre and Cinema 劇場及映画館	Tearoom 茶室

Set		Number •	Book	Catalogue		
VI	9	『早稲田 建築講義 15』	Waseda University Architectural Lecture Notes 15	Factory Building 工場建築	Power Plant Building 発電所建築	Hotel and Restaurant ホテル及レストラン
	1	『早稲田 建築講義 9』	Waseda Architecture Lecture Notes 9	Office Building 貸事務所		
	2	『早稲田 建築講義 4』	Waseda Architecture Lecture Notes 4	Lamp Illumination 電灯照明及照明法	Architecture Electrical Code 建築電気工事	Contract Plan and Equipment 施工計画及設備
	3	『早稲田 建築講義 5』	Waseda Architecture Lecture Notes 5	Construction Materials 建築材料		
4		『早稲田 建築講義 7』	Waseda Architecture Lecture Notes 7	Structural Dynamics 構造力学		
				Steel Frame Construction 鉄骨構造	Reinforced Concrete Construction 鉄筋コンクリート構造	Earthquake Resisting Construction 耐震計算



Figure 3.7 First-hand materials of the *Waseda University Architecture Lecture Notes*.

3.4 Review of the Content and its Development

The research work in this area started from consolidating the four sets of the notes altogether, and we ran a thorough review of the contents of the Lecture Notes, attached advertisements, and the editors' afterword.

Set I: The *Suzuki Collection*

This was a personal collection. The front page was only embellished with the letters 'The Suzuki Collection', and was enclosed by a brown hardcover, the same as in the Waseda Lecture Notes advertisements and were apparent traces of splitting and rebinding. The collection consisted of 7 volumes of specific subjects, and 1 volume of the appendix, the contents of each volume is shown in Table 3.7 below.

Two further investigations into its contents highlighted a piece of the introduction of topics. The first one introduced the Bauhaus, "*It has been ten years since Walter Gropius established the Bauhaus in 1919.*" We could infer that the Suzuki Collection was published in 1929 (Shōwa 4th). The second investigation showed a decorative painting on the theme of a horse made by an unknown craftsman. The editor mentioned, "*Next year is the year of the horse; we would like to use this as a New Year's greeting to you in advance.*" 1930 after 1929 is the Year of the Horse, which also validated the previous inference.

Meanwhile, in one of the short essays, Professor NAKAO mentioned, "The term international architecture was advocated by Walter Gropius in 1928 (Shōwa 3rd), but it appeared in Japan in July 1927 (Shōwa 2nd). Now on the verge of entering 1930 (Shōwa 5th), I desperately hope that young architects can work hard." which implied that this set was published right before 1930 (Shōwa 5th), which matches our hypothesis that it was the original edition in 1929 (Shōwa 4th).

To sum up, the Suzuki Collection comes from the original edition of the Lecture Notes in Shōwa 4th.

Set II: *No cover*

This set had 16 volumes of specific subjects and two volumes of appendices. It was from the Rare Books Archive and was also updated. The particular contents are shown in the Table 3.8.

The subjects were incomplete, so we could not determine the publication time simply based on the subject names. A further investigation into its contents highlighted a piece of editors' afterword. It mentions, "*The mid-October this year will witness the 50th-anniversary of Waseda University, and the University will host a week-long celebration. The University Press plans to take this opportunity and to host an off-campus conference, and we invite all of you to get involved actively.*" This celebration referred to the 50th-anniversary ceremony of Waseda University and helped us identify the publication as around 1932 (Shōwa 7th). Some additional information can also be extracted from the other pieces of the afterword, which mentioned that the publication of *Modern Architecture Survey*, *History of Arts and Crafts*, and *Introduction to Architecture* was in early Summer; the publication of *Japanese Home Tectonics*, and *Shrines and Temples* were in mid-Summer, and the publication of *Electric Lighting*, *Electric Engineering*, *Construction Planning* was in the Fall. This additional information could help us pinpoint that the whole set was published starting in April 1932 (Shōwa 7th).

A quick comparison showed that the 16 subjects in both editions were all the same except for *Machinery equipment*, in which an additional three chapters, covered gas equipment, freezing equipment, and miscellaneous equipment.

Table 3.8 Specific contents of the Suzuki collection.

Set	Number	Title	Classification	Instructors/ Professors	Catalogue	Pages
1		Japanese House Construction 日本家屋構造	Material and Construction 材料及び構造	Shoji FURUZUKA 古塚正治	1. General 2. Basic 3. Shaft Design 4. Roof Structure 5. Structure of Axis 6. Internal Miscellaneous Structure 7. External Miscellaneous Structure 8. Joinery 1. 総論 2. 基礎 3. 軸部の設計 4. 屋根の構造 5. 軒の構造 6. 内部雑作及雑構造 7. 外部雑作及雑構造 8. 建具	169
		General Structural Methods 一般構造法	Material and Construction 材料及び構造	Yō TOKUNAGA 徳永庸	1. Review 2. Foundation 3. Walls 4. Floor Construction 5. Roof 6. Roofing 7. Ceiling 8. Baseboard And Panel 9. Window at the Entrance 10. Stairs 11. Painting 1. 概説 2. 基礎 3. 壁 4. 床構造 5. 屋根 6. 屋根葺 7. 天井 8. 中木及腰羽目 9. 出入口並に窓 10. 階段 11. 塗装	234
1	1	Structural Dynamics 構造力学	Material and Construction 材料及び構造	Ryūzō SUZUKI 鈴木隆藏 Masao FUKUSHIMA 福島雅男 Isamu ISHII 石井勇	First Part : 1. Mechanics 2. Mechanics Of Materials 3. Application To Building Structures 4. Foundation 5. Retaining Wall 6. Chimney Second Part : 7. Deflection Due to Bonding Stresses 8. Continuous Beams 9. Framed Structure with Rigid Joints 10. Framed Structure with Pin Joints 第一部：1. 力学 2. 材料力学 3. 建築構造物への応用 4. 基礎 (Foundation) 5. 擁壁 (Retaining Wall) 6. 煙突 (Chimney) 第二部：7. 曲能率に依る梁の撓曲 (Deflection Due To Bonding Stresses) 8. 連梁 (Continuous Beams) 9. 剛節架構 (Framed Structure With Rigid Joints) 10. 滑節架構 (Framed Structure With Pin Joints)	313
					Sun Light and Lighting 日照及採光	Special Lecture 特別講義
	2					

Set	Number	Title	Classification	Instructors/ Professors	Catalogue	Pages
		Lamp Illumination 電灯照明及照明 法	Equipment 諸設備	Noriyuki KADOKURA 門倉則之	1. Light 2. Lamp 3. Measuring Device 4. Lighting Fixture 5. Lighting Method 6. Lighting Samples 1. 光 2. 電燈 3. 測定器 4. 照明器具 5. 照明方法 6. 照明應用	73
		Architectural Acoustics 建築音響	Special Lecture 特別講義	Takeo SATŌ 佐藤武夫	1. Outline 2. Acoustic Design of Audience Hall 3. Soundproof Structure of The Building 1. 概説 2. 聴取堂の音響設計 3. 建物の防音構造	51
		Surveying 測量	Implementation Plan 実施計画	Shikasaburo FUJII 藤井鹿三郎	1. General 2. Chain Surveying 3. Compass Measurement 4. High and Low Surveying 5. High And Low Surveying 6. Flat Surveying 7. Area Calculation Method 8. Volume Calculation 9. Surveying Drawing Method 10. Instrument Adjustment Method and Problems 1. 緒論 2. 測鎖 (Chain) 測量 3. 羅盤測量 4. 轉鏡儀測量 5. 高低測量 6. 平板測量 7. 面積の計算 8. 體積の計算 9. 測量製圖法 10. 器械整正法及び問題	123
	3	Specification 仕様書	Implementation Plan 実施計画	Buichi KIMURA 木村武一	1. Outline of Construction 2. Main Construction Specifications 3. Incidental Work 4. Cautions 1. 工事概要 2. 木工事概要 3. 附帯工事 4. 注意事項	68

Set	Number	Title	Classification	Instructors/ Professors	Catalogue	Pages
		Integration 積算法	Implementation Plan 実施計画	Yuichi INO 猪野勇一	<p>1. Significance and Requirements of the Multiplication Method 2. Assume Construction 3. Foundation Construction 4. Concrete Construction 5. Reinforced Construction 6. Steel Construction 7. Waterproof Construction 8. Brick Construction 9. Roof Tile Construction 10. Masonry 11. Wood Construction 12. Metal Construction 13. Joinery Construction 14. Metal Joinery Construction 15. Roofing Construction 16. Plastering Construction 17. Glass Construction 18. Painting Construction 19. Seroll Mounter Construction 20. Site Construction 21. Miscellaneous Construction 22. Samples</p> <p>1. 積算法の意義及要項 2. 假設工事 3. 基礎工事 4. コンクリート工事 5. 鉄筋工事 6. 鉄骨工事 7. 防水工事 8. 煉瓦工事 9. 張瓦工事 10. 石材工事 11. 木材工事 12. 金物工事 13. 建具工事 14. 建具金物工事 15. 屋根工事 16. 左官工事 17. 硝子工事 18. 室師工事 19. 経師工事 20. 敷地工事 21. 雜工事 22. 實例</p>	103
	4	Urban Planning 都市計画	Special Lecture 特別講義	Kyoji YOSHIDA 古田亨二 Gisaburo SHIRATORI 白鳥義三郎	<p>1. General 2. Regional Differentiation Planning 3. Stairs Architectural Planning 4. Development of Green Shade</p> <p>1. 總論 2. 地域區分計画 3. 段階建築計画 4. 綠蔭の發達</p>	90

Set	Number	Title	Classification	Instructors/ Professors	Catalogue	Pages
		Regulations and Application 法規及出願手続き	Implementation Plan 実施計画	Takehiko MATSUMOTO 松本猛彦	<p>1. General 2. Utility Area 3. Architectural Line 4. Height of Building 5. Vacant Land 6. Structural Equipment 7. General Structural Strength 8. Fireproof District 9. Artistic Area 10. Special Building 11. Construction Execution Procedures 12. Discipline 13. Compensation and Relief 14. Mutual Use and Excluded Buildings 15. Construction Date</p> <p>1. 総論 2. 地域及地区 3. 建築線 4. 建築物の高 5. 空地 6. 構造設備 7. 一般構造強度 8. 防火地区 9. 美観地区 10. 特殊建築物 11. 工事執行手続き 12. 處分及罰則 13. 補償及救済 14. 準用及除外建築物 15. 施工期日</p>	103
		Economic Problems of Building 建築の経済問題	Special Lecture 特別講義	Togo MURANO 村野藤吾	<p>1. Introduction 2. General 3. Specific Issues (Land Issue / Architectural Issue / Life and Loss of Architecture / Mechanical Equipment / Land and Building Relations) 4. Problems In Construction (High-Rise Building / Regional Structure and Construction / Investment)</p> <p>1. 緒言 2. 総論 3. 各論 (土地問題/建築問題/建築の生命及減價/機械設備/土地と建築物の関係) 4. 建築経営における諸問題 (高層建築/地域制と建築/投資)</p>	70

Set	Number	Title	Classification	Instructors/ Professors	Catalogue	Pages
		Sanitation Equipment 衛生設備	Equipment 諸設備	Ichiro ŌSAWA 大澤一郎	<p>1. Water Supply Equipment and Water Usage 2. Water Well and Source of River 3. Water Properties and Tests 4. Hydraulic Requirements 5. Pump 6. Water Purification Method 7. Water Supply Facility Based on Water Supply 8. Water Supply Piping Equipment 9. Faucets 10. Waterpipe 11. Indoor Fire Extinguishing Equipment 12. Warm Water Method 13. Sanitary Equipment 14. Trap (Deodorant Bun) 15. Drainage Pipes 16. Indoor Drainage 17. Sewage Separation Method</p> <p>1. 給水設備と水の使用量 2. 井戸及水源 3. 水の性質及其の試験 4. 水力学要項 5. ポンプ (揚水機) 6. 浄水法 7. 水道に依る給水設備 8. 給水配管設備 9. 水栓類 10. 給水管 11. 屋内消火設備 12. 給湯法 13. 衛生器具 14. トラップ (防臭) 15. 排水管類 16. 屋内排水 17. 汚水處分法</p>	204
	5	Ventilation equipment 換気設備	Equipment 諸設備	Shōgo SAKURAI 桜井省吾	<p>1. General 2. Ventilation Method 3. Air Cleaning Method, Heating Method and Dehumidification Method 4. Sending Machine and Exhausting Machine 5. Duct Design and Structure</p> <p>1. 總論 2. 換気方法 3. 空気の清浄法、加熱法及減湿法 4. 送気機及排気機 5. ダクトの設計及構造</p>	50
		Mechanical Equipment /Equipment Building 機械設備 for	Equipment 諸設備	Ichiro ŌSAWA 大澤一郎	<p>1. Motor 2. Elevator 3. Transport Equipment 1. 原動機 2. 昇降機 3. 搬送設備</p>	90

Set	Number	Title	Classification	Instructors/ Professors	Catalogue	Pages
		Heating and cooling equipment 暖房冷房設備	Equipment 諸設備	Tokimasa DOI 土居寛通	<ol style="list-style-type: none"> 1. The Concept of Heating House 2. The Physical Basis of Heating Houses 3. The Method of Losing Heat 4. Warm Water Tank and Steam Tank 5. Radiator and Heater 6. Accessories of the Radiator 7. Connection Method of The Iron Pipe 8. Pumps 9. Fire Room Heating Device 10. Warm Water Heating Room Device 11. Forced Warm Water Heating Room Device 12. Steam Room Heating Device 13. Thermal Heating Room Method 14. Humidity Adjusting Device <ol style="list-style-type: none"> 1. 暖房の概念 2. 暖房の物理学的基礎 3. 損失熱量の方法 4. 温水罐と蒸気罐 5. 放熱器と加熱器 6. 放熱器の付属品 7. 鉄管と接手 8. 筒 9. 火気暖房装置 10. 温水暖房装置 11. 強制温水暖房装置 12. 蒸気暖房装置 13. 熱気暖房法 14. 湿度調節装置 	121
		Contract Plan and Equipment 施工計画及設備	Equipment 諸設備	Ryozo BABA 馬場良三	<ol style="list-style-type: none"> 1. General 2. The Basis of the Construction Planning 3. Arrangement Inside and Outside the Construction Site 4. Classification of Various Construction Machinery 5. Details of Various Construction Machinery 6. Mechanical Equipment for Concrete Construction 7. Concrete Forms 8. Construction Works <ol style="list-style-type: none"> 1. 概説 2. 工事計画の基礎 3. 工事作業場内外の整理 4. 各種工事用機械分類 5. 各種工事用機械詳説 6. コンクリート工事用機械設備 7. コンクリート假枠 (Forms) 8. 各工事計画 	107

Set	Number	Title	Classification	Instructors/ Professors	Catalogue	Pages
		Architecture Electrical Construction 建築電気工事	Equipment 諸設備	Shigeru ICHIGAWA 市川繁彌	<ol style="list-style-type: none"> 1. The Importance of Electrical Equipment in Buildings 2. Types of Indoor Electrical Equipment and Power Requirements 3. Type of Wiring Method 4. Precautions for Construction 5. Special Room and Unique Equipment <ol style="list-style-type: none"> 1. 建築物における電気設備の重要性 2. 室内電気装置の種類及所要電力 3. 配線方法 4. 工事上の注意 5. 特殊室及特殊装置 	80
		Factory 工場	Architecture Plan 建築計画	Tachū NAITŌ 内藤多伸	<ol style="list-style-type: none"> 1. General 2. Land And Site 3. Plan of A House 4. Types of Factory Buildings 5. Structure of Main Building 6. Structure of Each Part and Construction 7. Floor 8. House Roof 9. Daylighting And Lighting 10. Construction Equipment (Heating Room, Ventilation, Moisture Supply, Fire Prevention) 11. Transportation Equipment 12. Ancillary Equipment and Welfare Facilities <ol style="list-style-type: none"> 1. 総論 2. 土地及び敷地 3. 間取り 4. 工場建築の種類及び型式 5. 建築主體の構造 6. 各部構造及び施工 7. 床 8. 屋根 9. 採光及び照明 10. 建築設備 (暖房、換氣、給湯、防火) 11. 運搬装置 12. 附属設備及び福利設施 	53
	6	Warehouse 倉庫	Architecture Plan 建築計画	Katsumari KITAMURA 北村勝成	<ol style="list-style-type: none"> 1. Concept of The Shed and Rehouse 2. Concept of Cargo 3. Concept of Cargo Handling Equipment 4. Shed 5. Warehouse 6. Special Warehouse <ol style="list-style-type: none"> 1. 上屋及倉庫の概念 2. 貨物の概念 3. 荷役設備の概念 4. 上屋 5. 倉庫 6. 特殊倉庫 	60

Set	Number	Title	Classification	Instructors/ Professors	Catalogue	Pages
		Automobile Garage 自動車庫	Architecture Plan 建築計画	Yoshi NIWA 丹羽美	1. General Description of Automatic Garage 2. Structure of Automatic Garage 3. Equipment and Facilities of Automatic Garage 1. 自動車庫総説 2. 自動車庫の構造 3. 自動車庫に対する設備と設施	63
		Bank 銀行	Architecture Plan 建築計画	Takeo YASUI 安井武雄	1. General 2. Bank History 3. Bank Administrative Organization 4. Building Planning 1. 総論 2. 銀行の沿革 3. 銀行の事務組織 4. 建築計画	73
		The Department Store 百貨店	Architecture Plan 建築計画	Takeo SATŌ 佐藤武夫	1. Department Store History and Organization 2. Department Store Building 1. 百貨店の沿革と組織 2. 百貨店の建築	50
		Theatre and Cinema 劇場及映画館	Architecture Plan 建築計画	Takeo SATŌ 佐藤武夫 Katsumi NAKAYAMA 中山克巳	1. History of Theatre Building 2. Trends in Modern Theatre Building 3. Stage 1. 劇場建築の沿革 2. 現代に於ける劇場建築の機成 3. 舞臺部 (Stage)	74
	7	Hotel and Restaurant ホテル及レスト ラン	Architecture Plan 建築計画	Kyoji YOSHIDA 吉田亨二	1. Planning Concept 2. Building Planning (General Planning / Building Planning / Equipment Concept) 1. 計画概念 2. 建築計画 (一般建築計画 / 建築計画 / 設備概念)	52
		Apartment House アパートメント ハウス	Architecture Plan 建築計画	Yoshihiro TAKEUCHI 竹内芳太郎	1. Installation (Significance and Type / Housing Problem and Apartment / History / Apartment in Western Countries/ Japan's State) 2. Design (Selection of Site / Plan for Horizontal Plane / Plan for Vertical Plane / Special Apartment) 1. 総設 (意義と種別 / 住宅問題とアパート / 沿革 / 歐美各園のアパート / 吾國の状態) 2. 計画 (敷地の選擇 / 單位計画 / 水平断面に対する計画 / 垂直断面に対する計画 / 特殊アパート)	83

Table 3.9 Specific contents of the no-cover collection.

Set	Number	Title	Classification	Instructors/Professors	Catalogue	Pages
II	1	Office Building 貸事務所	Architecture Plan 建築計画	Yoshikiyo SATO 佐藤 良清	1. Overview of Office Building 2. Architectural Planning 3. Floorplanning 4. Design Of Building Details 5. Elevator 6. Structural Planning 7. Incidental Equipment 8. High-Rise Buildings and Urban Problems 1. 事務所建築發達の概要 2. 建築計畫について 3. 平面計画 4. 建築細部の設計 5. 昇降機 6. 構造計畫 7. 附帶諸計畫 8. 高層建築と都市問題	59
	2	Earthquake Resisting Construction 耐震計算	Material and Construction 材料及び構造	Tachu NAITO 内藤多仲	1. General 2. Earthquake Resistant Structure 3. The Solution of The Frame to the Coercive Force 4. Earthquake Immune Calculation Principle 5. Calculation Example 1. 總論 2. 耐震構造学 3. 横力に対する架構の解法 4. 耐震計算原理 5. 計算例	53
	3	Architecture Electrical Construction 建築電気工事	Equipment 諸設備	Shigeru ICHIGAWA 市川繁彌	1. The Importance of Electrical Equipment in Buildings 2. Types of Indoor Electrical Equipment and Power Requirements 3. Type of Wiring Method 4. Precautions for Construction 5. Particular Room and Unique Equipment 1. 建築物における電気設備の重要性 2. 室内電気装置の種類及所要電力 3. 配線方法の種別 4. 工事上の注意 5. 特殊室及特殊装置	80

Set	Number	Title	Classification	Instructors/Professors	Catalogue	Pages
	4	Contract Plan and Equipment 施工計画及設備	Equipment 諸設備	Ryozo BABA 馬場良三	<ol style="list-style-type: none"> 1. General 2. The Basis of The Construction Planning 3. Arrangement Inside and Outside the Construction Site 4. Classification of Various Construction Machinery 5. Details Of Various Construction Machinery 6. Mechanical Equipment for Concrete Construction 7. Concrete Forms 8. Construction Works <ol style="list-style-type: none"> 1. 概説 2. 工事計画の基礎 3. 工事作業場内外の整理 4. 各種工事用機械分類 5. 各種工事用機械詳説 6. コンクリート工事用機械設備 7. コンクリート假枠 8. 各工事計画 	105
	5	Specification 仕様書	Implementation Plan 実施計画	Buichi KIMURA 木村武一	<ol style="list-style-type: none"> 1. Outline of Construction 2. Main Construction Specifications 3. Incidental Work 4. Cautions 5. Japanese Carpentry <ol style="list-style-type: none"> 1. 工事概要 2. 木工事概要 3. 附帯工事 4. 注意事項 5. 日本家木工事仕様 	68
	6	Mechanical Equipment /Equipment for Building 機械設備	Equipment 諸設備	Ichiro ŌSAWA 大澤一郎	<ol style="list-style-type: none"> 1. Motor 2. Elevator 3. Transport Equipment 4. Gas Equipment 5. Freezing Equipment 6. Miscellaneous Equipment <ol style="list-style-type: none"> 1. 原動機 2. 昇降機 3. 搬送設備 4. ガス設備 5. 冷蔵設備 6. 雑設備 	180

Set	Number	Title	Classification	Instructors/Professors	Catalogue	Pages
	7	Sanitation Equipment 衛生設備	Equipment 諸設備	Ichiro ŌSAWA 大澤一郎	<ol style="list-style-type: none"> 1. Water Supply Equipment and Water Usage 2. Water Well and Source of River 3. Water Properties and Tests 4. Hydraulic Requirements 5. Pump 6. Water Purification Method 7. Water Supply Facility Based on Water Supply 8. Water Supply Piping Equipment 9. Faucets 10. Water Pipe 11. Indoor Fire Extinguishing Equipment 12. Warm Water Method 13. Sanitary Equipment 14. Trap (Deodorant Bun) 15. Drainage Pipes 16. Indoor Drainage 17. Sewage Separation Method <ol style="list-style-type: none"> 1. 給水設備と水の使用量 2. 井戸及水源 3. 水の性質及其の試験 4. 水力学要項 5. ポンプ (揚水機) 6. 浄水法 7. 水道に依る給水設備 8. 給水配管設備 9. 水栓類 10. 給水管 11. 屋内消火設備 12. 給湯法 13. 衛生器具 14. トラップ (防臭弁) 15. 排水管類 16. 屋内排水 17. 汚水処分法 	204
	8	Heating and cooling equipment 暖房冷房設備	Equipment 諸設備	Tokimasa DOI 土居寛通	<ol style="list-style-type: none"> 1. The Concept of Heating House 2. The Physical Basis of Heating House 3. The Method of Losing Heat 4. Warm Water Tank and Steam Tank 5. Radiator And Heater 6. Accessories of the Radiator 7. Connection Method of The Iron Pipe 8. Pumps 9. Fire Room Heating Device 10. Warm Water Heating Room Device 11. Forced Warm Water Heating Room Device 12. Steam Room Heating Device 13. Thermal Heating Room Method 14. Humidity Adjusting Device <ol style="list-style-type: none"> 1. 暖房の概念 2. 暖房の物理学的基礎 3. 損失熱量の方法 4. 温水罐と蒸汽罐 5. 放熱器と加熱器 6. 放熱器の附属品 7. 鉄管と接手 8. 唧筒 9. 火気暖房装置 10. 温水暖房装置 11. 強制温水暖房装置 12. 蒸汽暖房装置 13. 熱気暖房法 14. 湿度調節装置 	121

Set	Number	Title	Classification	Instructors/Professors	Catalogue	Pages
	9	Drafting Method 製図法	Drawing 製図	Koichiro KIMURA 木村幸一郎 Saburō SOSHIRODA 十代田三郎	1.General 2. Sketching Equipment and Materials 3. Architectural Drawing 4. Abbreviated Design Drawing 5. Main Design (Part One) Design Part 6. Main Design (Part Two) Structural Drawing 1. 概説 2. 製図用器及材料 3. 建築図法 4. 略設計図 5. 本設計 (其の一) 意匠の部 6. 本設計図 (其の二) 構造画の部	70
	10	Store 商店	Architecture Plan 建築計画	Kyoji YOSHIDA 吉田 亨二 Saburō SOSHIRODA 十代田三郎	1. General 2. General Plan 3. Store Planning 4. Inside of Store Planning 5. Daylighting and Lighting 6. Heating and Ventilation of The Store 7. Display Method and Display Board of Display Window 1. 総論 2. 商店建築計画 3. 店頭意匠 4. 店内設備 5. 商店の採光と照明 6. 店舗内の暖房と換気 7. 陳列窓の陳列法と観板	71
	11	School 学校	Architecture Plan 建築計画	Yatarō MINE 峰彌太郎	1. Introduction 2. School Site 3. Plan of the School Building 4. Ordinary Classroom 5. Special Classroom 6. School Office 7. Corridor and Other Places 8. Sanitary Equipment 9. Lecture Hall 10. Structure of School Building 11. Style of The School Building 12. Exercise Yard 13. Mechanical Equipment 1. 緒言 2. 校地 3. 校舎の平面計画 4. 普通教室 5. 特殊教室 6. 校務室 7. 廊下及びその他 8. 衛生設備 9. 講堂 10. 校舎の構造 11. 校舎の様式 12. 運動場 13. 機械的設備	61
	12	Ventilation equipment 換気設備	Equipment 諸設備	Shōgo SAKURAI 桜井省吾	1. General 2. Exchange Method 3. Air Cleaning Method, Heating Method and Dehumidification Method 4. Sending Machine and Exhausting Machine 5. Duct Design and Structure 1. 総論 2. 換気方法 3. 空気の清浄法、加熱法及減湿法 4. 送気機及び排気機 5. ダクトの設計及び構造	50

Set	Number	Title	Classification	Instructors/Professors	Catalogue	Pages
	13	The Department Store 百貨店	Architecture Plan 建築計画	Takeo SATŌ 佐藤 武夫	1. Department Store History and Organization 2. Department Store Building 1. 百貨店の沿革と組織 2. 百貨店の建築	50
	14	Factory 工場	Architecture Plan 建築計画	Tachū NAITŌ 内藤多仲	1. General 2. Land And Site 3. Plan of a House 4. Types of Factory Buildings 5. Structure Of Main Building 6. Structure of Each Part and Construction 7. Floor 8. House Roof 9. Daylighting And Lighting 10. Construction Equipment (Heating Room, Ventilation, Moisture Supply, Fire Prevention) 11. Transportation Equipment 12. Ancillary Equipment and Welfare Facilities 1. 総論 2. 土地及び敷地 3. 間取り 4. 工場建築の種類及び型式 5. 建築主體の構造 6. 各部構造及び施工 7. 床 8. 屋根 9. 採光及び照明 10. 建築設備 (暖房、換気、給温、防火) 11. 運搬装置 12. 附属設備及び福利設施	53
	15	Warehouse 倉庫	Architecture Plan 建築計画	Katsunari KITAMURA 北村勝成	1. Concept of The Shed and Rehouse 2. Concept of Cargo 3. Concept of Cargo Handling Equipment 4. Shed 5. Warehouse 6. Special Warehouse 1. 上屋及び倉庫の概念 2. 貨物の概念 3. 荷役設備の概念 4. 上屋 5. 倉庫 6. 特殊倉庫	60
	16	Architectural Acoustics 建築音響	Special Lecture 特別講義	Takeo SATŌ 佐藤 武夫	1. Outline 2. Acoustic Design of Audience Hall 3. Soundproof Structure of The Building 1. 概説 2. 聴取堂の音響設計 3. 建物の防音構造	51

Set III: Shōwa 15th (1940)

This collection in the Archive only consisted of eight volumes, and the detailed contents are listed in the Table 3.9 below.

Again, by comparison with the earlier ones, the specific contents were still the same except for “*Machinery Equipment*”, in which this version abridged the Miscellaneous Equipment chapter.

Therefore, we could reach the preliminary conclusion that design courses were generally consistent and rarely under revision, but the “*Machinery Equipment*” course was under constant editing and rewriting, and the newer version offered a more in-depth tutorial in order to make the equipment more suitable for the use of the building.

Set IV: Shōwa 17th (1942)

This collection was found in the Rare Books Archive, 1-17 volumes could be integrated, and the specific contents were listed in Table 3.10.

Table 3.10 Specific contents of the Shōwa 15th edition.

Set	Number	Book	Title	Classification	Instructors /Professors	Catalog	Pages
III	1	Waseda University Architecture Lecture Notes Shōwa 15 th 5 早稲田大学建築講義 昭和15年 5	Structural Dynamics 構造力学	Material and Construction 材料及び構造	Ryūzo SUZUKI 鈴木隆藏 Masao FUKUSHIMA 福島雅男 Isamu ISHII 石井勇	First Part : 1. Mechanics 2. Mechanics of Materials 3. Application to Building Structures 4. Foundation 5. Retaining Wall 6. Chimney Second : 7. Deflection Due to Bonding Stresses 8. Continuous Beams 9. Framed Structure with Rigid Joints 10. Framed Structure with Pin Joints 上編 : 1. 力学 2. 材料力学 3. 建築構造物への應用 4. 基礎 5. 擁壁 6. 煙突 下編 : 7. 曲能率に依る梁の撓曲 8. 連梁 9. 剛節架構 10. 滑節架構	313
	2	Waseda University Architecture Lecture Notes Shōwa 15 th 6 早稲田大学建築講義 昭和15年 6	Modern Architecture Outline 近代建築概論	Overview and History 概論及び歴史	Kenji IMAI 今井兼次	1. Introduction 2. Before Rococo After Rococo 3. 19th Century Architecture 4. Causes of The Rise of Modern Architecture 5. Secession Movement and Its Aftermath 6. Trends in Modern Architecture 7. International Architecture Movement 1. 序 2. ロココ以前ロココ以後 3. 19世紀の建築 4. 現代建築勃興の原因 5. セセッション運動とその後 6. 現代建築の趨勢 7. 國際建築運動	149

Set	Number	Book	Title	Classification	Instructors /Professors	Catalog	Pages
			Craft Art History 工芸美術史	Overview and History 概論及び歴史	Tari MORIGUCHI 森口多里	1. Introduction 2. Ancient Craft Art 3. Mid-Century Craft Art 4. Crafts Art of The Renaissance 5. Craft Art in The Ruki Dynasty 6. Craft Art of the 19 th -Century Modern Western Modern Glaze, Glass, Goldsmith 7. About Modern Craft Art 1. 序論 2. 古代の工芸美術 3. 中世紀の工芸美術 4. ルネッサンス時代の工芸美術 5. ルキ王朝時代の工芸美術 6. 19世紀の工芸美術 7. 現代約説	98
			Appendix 附録	Appendix 附録	—	—	
			Mechanical Equipment /Equipment for Building 機械設備	Equipment 諸設備	Ichirō ŌSAWA 大澤一郎	1. Motor 2. Elevator 3. Transport Equipment 4. Gas Equipment 5. Refrigeration Equipment 1. 原動機 2. 昇降機 3. 搬送設備 4. 瓦斯設備 5. 冷凍設備	180
	3	Waseda University Architecture Lecture Notes Shōwa 15 th 11 早稲田大学建築講義 昭和15年11	Sanitation Equipment 衛生設備	Equipment 諸設備	Ichirō ŌSAWA 大澤一郎	1. Water Supply Equipment and Water Usage 2. Water Well and Source of a River 3. Water Properties and Tests 4. Hydraulic Requirements 5. Pump 6. Water Purification Method 7. Water Supply Facility Based on Water Supply 8. Water Supply Piping Equipment 9. Faucets 10. Water Pipe 11. Indoor Fire Extinguishing Equipment 12. Warm Water Method 13. Sanitary Equipment 14. Trap (Deodorant Bun) 15. Drainage Pipes	204

Set	Number	Book	Title	Classification	Instructors /Professors	Catalog	Pages
						16. Indoor Drainage 17. Sewage Separation Method 1. 給水設備と水の使用量 2. 井戸及び水源 3. 水の性質及其の試験 4. 水力学要項 5. ポンプ (揚水機) 6. 浄水法 7. 水道に依る給水設備 8. 給水配管設備 9. 水栓類 10. 給水管 11. 屋内消火設備 12. 給湯法 13. 衛生器具 14. トラップ (防臭傘) 15. 排水管類 16. 屋内排水 17. 画水處分法	
	4	Waseda University Architecture Lecture Notes Shōwa 15 th 12 早稲田大学建築講義 昭和 15 年 12	Heating and cooling equipment 暖房及冷房設備	Equipment 諸設備	Tokimasa DOI 土居寛通	1. The Concept of Heating House 2. The Physical Basis of Heating House 3. The Method of Losing Heat 4. Warm Water Tank and Steam Tank 5. Radiator And Heater 6. Accessories of ohe Radiator 7. Connection Method of The Iron Pipe 8. Pumps 9. Fire Room Heating Device 10. Warm Water Heating Room Device 11. Forced Warm Water Heating Room Device 12. Steam Room Heating Device 13. Thermal Heating Room Method 14. Humidity Adjusting Device 1. 暖房の概念 2. 暖房の物理学的基礎 3. 損失熱量の方法 4. 温水罐と蒸気罐 5. 放熱器と加熱器 6. 放熱器の附屬品 7. 鉄管と接手 8. 唧筒 9. 火気暖房装置 10. 温水暖房装置 11. 強制温水暖房装置 12. 蒸気暖房装置 13. 熱気暖房法 14. 湿度調節装置	121

Set	Number	Book	Title	Classification	Instructors /Professors	Catalog	Pages
			Ventilation equipment 換気設備	Equipment 諸設備	Shōgo SAKURAI 櫻井省吾	<ol style="list-style-type: none"> 1. General 2. Exchange Method 3. Air Cleaning Method, Heating Method and Dehumidification Method 4. Sending Machine and Exhausting Machine 5. Duct Design and Structure <ol style="list-style-type: none"> 1. 總論 2. 換気方法 3. 空気の清浄法、加熱法及減湿法 4. 送気機及排気機 5. ダクトの設計及構造 	50
			Surveying 測量	Implementation Plan 実施計画	Shikasaburō FUJII 藤井鹿三郎	<ol style="list-style-type: none"> 1. General 2. Chain Surveying 3. Compass Measurement 4. High And Low Surveying 5. High and Low Surveying 6. Flat Surveying 7. Area Calculation Method 8. Volume Calculation 9. Surveying Drawing Method 10. Instrument Adjustment Method and Problems <ol style="list-style-type: none"> 1. 緒論 2. 測鎖 測量 3. 羅盤測量 4. 轉鏡儀測量 5. 高低測量 6. 平板測量 7. 面積の計算 8. 體積の計算 9. 測量製図法 10. 器械整正法及び問題 	123
			Configuration Art Argument 構成美論	Overview and History 概論及び歴史		-	
	5	Waseda University Architecture Lecture Notes Shōwa 15 th 13 早稲田大学建築講義 昭和 15 年 13	Drafting Method 製図法	Drawing 製図	Kōichirō KIMURA 木村幸一郎 Saburō SOSHIRODA 十代田三郎	<ol style="list-style-type: none"> 1. General 2. Sketching Equipment and Materials 3. Architectural Drawing 4. Abbreviated Design Drawing 5. Main Design (Part One) Design Part 6. Main Design (Part Two) Structural Drawing <ol style="list-style-type: none"> 1. 概説 2. 製図用器及材料 3. 建築図法 4. 略設計図 5. 本設計図 (其の一) 意匠の部 6. 本設計図 (其の二) 構造図の部 	

Set	Number	Book	Title	Classification	Instructors /Professors	Catalog	Pages
			Perspective Drawing and The Shadow Method 透視図及陰影法	Drawing 製図	Wajirō KON 今和次郎	<ol style="list-style-type: none"> General 2. Sketching Equipment and Materials Architectural Drawing Abbreviated Design Drawing Main Design (Part One) Design Part Main Design (Part Two) Structural Drawing <ol style="list-style-type: none"> 概説 2. 製図用器及材料 3. 建築図法 略設計図 本設計図 (其の一) 意匠の部 本設計図 (其の二) 構造図の部 	69
			Residential Building 住宅	Architecture Plan 建築計画	Seisuro YAMAMOTO 山本拙郎	<ol style="list-style-type: none"> General 2. Each Room of House 3. Equipment <ol style="list-style-type: none"> 序論 2. 住宅の各室 3. 設備 	
			Store 商店	Architecture Plan 建築計画	Kyōji YOSHIDA 吉田亨二 Saburō SOSHIRODA 十代田三郎	<ol style="list-style-type: none"> General 2. General Plan 3. Store Planning Inside of Store Planning 5. Daylighting And Lighting Heating and Ventilation of The Store Display Method and Display Board of Display Window <ol style="list-style-type: none"> 總論 2. 商店建築計画 3. 店頭意匠 店内設備 5. 商店の採光と照明 店舗内の暖房と換気 7. 陳列窓の陳列法と観板 	55
	6	Waseda University Architecture Lecture Notes Shōwa 15 th 14 早稲田大学建築講義 昭和 15 年 14	School 学校	Architecture Plan 建築計画	Yatarō MINE 峰彌太郎	<ol style="list-style-type: none"> Introduction 2. School Site 3. Plan of School Building Ordinary Classroom 5. Special Classroom 6. School Office Corridor and Other Places Sanitary Equipment 9. Lecture Hall Structure of School Building 11. Style of School Building Exercise Yard 13. Mechanical Equipment <ol style="list-style-type: none"> 緒言 2. 校地の 3. 校舎の平面計画 普通教室 5. 特殊教室 6. 校務室 廊下及び其の他 衛生設備 9. 講堂 校舎の構造 11. 校舎の様式 運動場 13. 機械的設備 	71

Set	Number	Book	Title	Classification	Instructors /Professors	Catalog	Pages
			Apartment House アパートメント ハウス	Architecture Plan 建築計画	Yoshitaro TAKEUCHI 竹内芳太郎	—	61
			Automobil Garage 自動車庫	Architecture Plan 建築計画	Yoshi NIWA 丹羽美	1. General Description of Automatic Garage 2. Structure of Automatic Garage 3. Equipment And Facilities of Automatic Garage 1. 自動車庫総説 2. 自動車庫の構造 3. 自動車庫に対する設備と設施	63
	7	Waseda University Architecture Lecture Notes Shōwa 15 th 16 早稲田大学建築講義 昭和 15 年 16	Factory 工場	Architecture Plan 建築計画	Tachū NAITŌ 内藤多仲	1. General 2. Land and Site 3. Plan of a House 4. Types of Factory Buildings 5. Structure of Main Building 6. Structure of Each Part and Construction 7. Floor 8. House Roof 9. Daylighting and Lighting 10. Construction Equipment (Heating Room, Ventilation, Moisture Supply, Fire Prevention) 11. Transportation Equipment 12. Ancillary Equipment and Welfare Facilities 1. 総論 2. 土地及び敷地 3. 間取り 4. 工場建築の種類及び型式 5. 建築主體の構造 6. 各部構造及び施工 7. 床 8. 屋根 9. 採光及び照明 10. 建築設備 (暖房, 換氣, 給濕, 防火) 11. 運搬装置 12. 附屬設備及び福利設施	53

Set	Number	Book	Title	Classification	Instructors /Professors	Catalog	Pages
			Warehouse 倉庫	Architecture Plan 建築計画	Katsumari KITAMURA 北村勝成	1. Concept of Shed and Rehouse 2. Concept of Cargo 3. Concept of Cargo Handling Equipment 4. Shed 5. Warehouse 6. Special Warehouse 1. 上屋及び倉庫の概念 2. 貨物の概念 3. 荷役設備の概念 4. 上屋 5. 倉庫 6. 特殊倉庫	60
			Office Building 貸事務所	Architecture Plan 建築計画	Yoshikiyo SATO 佐藤良清	1. Overview of Office Building 2. Architectural Planning 3. Floor Planning 4. Design Of Building Details 5. Elevator 6. Fireproof Evacuation Equipment 7. Structural Planning 8. Incidental Equipment 9. High-Rise Buildings and Urban Problems 1. 事務所建築発達の概要 2. 建築計画に就いて 3. 平面計画 4. 建物細部の設計 5. 昇降機 6. 防火避難設備 7. 構造計画 8. 附帯設備 9. 高層建築と都市問題	59
			Urban Planning 都市計画	Special Lecture 特別講義	Kyōji YOSHIDA 吉田亨二	1. General 2. Regional Differentiation Planning 3. Stairs Architectural Planning 4. Development of Green Shade 1. 総論 2. 地域区分計画 3. 段階建築計画 4. 緑蔭の発達	89
	8	Waseda University Architecture Lecture Notes Shōwa 15 th 18 早稲田大学建築講義 昭和 15 年 18	Architectural Acoustics 建築音響	Special Lecture 特別講義	Takeo SATO 佐藤武夫	1. Outline 2. Acoustic Design of Audience Hall 3. Soundproof Structure of Building 1. 概説 2. 聴取堂の音響設計 3. 建物の防音構造	49

Set	Number	Book	Title	Classification	Instructors /Professors	Catalog	Pages
			Sun Light and Lighting 日照及採光	Special Lecture 特別講義	Koichirō KIMURA 木村幸一郎	1. General Description 2. Sun Position 3. Sunlight and Architecture 4. Physical Properties of Sunlight 5. The Illuminance of A Wall 6. The Room Illuminance of Light Entering Through Various Windows 1. 概説 2. 太陽の位置 3. 日照と建築 4. 日光及面光の物理的性質 5. 壁に囲まれた場所の照度 6. 種々なる窓より入る面光の室内照度	73
			Appendix 附録	Appendix 附録	—	—	

Table 3.1.1 Specific contents of the Shōwa 17th edition.

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
IV	1	Waseda University Architecture Lecture Notes Shōwa 17 th 1 早稲田大学建築講 義昭和17年1	Architecture Outline 建築汎論	Overview and History 概論及び歴史	Kōichi SATŌ 佐藤功一	<p>1. The Meaning and Definition of Architecture 2. Origin of Architecture (Architecture in The Primitive Times) 3. Development of Architecture Seen from The Structure 4. Development of Science and Progress of Architectural Structure 5. The Development of Architecture Seen from The Point of Application 6. Architecture As a Part of Space Formation 7. Problems Related to Engineers and Construction End: The Present and The Future of The Japanese Architectural World 1. 建築の語義及定義 2. 建築の発生 (原始的時代の建築) 3. 構造上より見たる建築の発達 4. 科学の発達と建築構造の進歩 5. 用途上より見たる建築の発達 6. 空間形成の藝術としての建築 7. 建築工匠及び施工に関する問題 結尾：我國建築界の現在及び將來</p>	61
			Japanese Architectural History 日本建築史	Overview and History 概論及び歴史	Yasushi TANABE 田邊泰	<p>1. General 2. Prehistoric History 3. Asuka Period 4. Early Nara Period (Hakuhō Period) 5. Late Nara Period (Tempyo Period) 6. Early Period (Hirohito Period) 7. Late Heian Period (Fujiwara Period) 8. Kamakura Period 9. Muromachi Period 10. Momoyama Period 11. Edo Period 12. Tokyo Period 1. 総論 2. 先史時代及び原史時代 3. 飛鳥時代 4. 寧樂時代前期 (白鳳時代) 5. 寧樂時代後期 (天平時代) 6. 平安時代前期 (弘仁時代) 7. 平安時代後期 (藤原時代) 8. 鎌倉時代 9. 室町時代 10. 桃山時代 11. 江戸時代 12. 東京時代</p>	193

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
	2	Waseda University Architecture Lecture Notes Shōwa 17 th 2 早稲田大学 建築講 義 昭和 17 年 2	Orient Architectural History Outline 東洋建築史概説	Overview and History 概論及び歴史	Chūta ITŌ 伊東忠太	1. Islan Architecture 2. India Architectural History 1. 回教建築 2. 印度建築史	176
	3	Waseda University Architecture Lecture Notes Shōwa 17 th 3 早稲田大学 建築講 義 昭和 17 年 3	Western Countries Architectural History 西洋建築史	Overview and History 概論及び歴史	Yasushi TANABE 田邊泰	1. General 2. Egypt Architecture 3. Western Asian Architecture 4. Greece Architecture 5. Roma Architecture 6. Initial Christianity Architecture 7. Byzantine Architecture 8. Romanesque Architecture 9. Gothic Architecture 1. 総論 2. 埃及建築 3. 西方亜細亜建築 4. ギリシア建築 5. ローマ建築 6. 初期基督教建築 7. ビザンチン建築 8. ローマネスク建築 9. ゴシック建築	118
	3	Waseda University Architecture Lecture Notes Shōwa 17 th 3 早稲田大学 建築講 義 昭和 17 年 3	Drafting Method 製図法	Drawing 製図	Kōichirō KIMURA 木村幸一郎 Motoo Take 武基雄	1. General 2. Sketching Equipment and Materials 3. Architectural Drawing 4. Abbreviated Design Drawing 5. Main Design (Part One) Design Part 6. Main Design (Part Two) Structural Drawing 1. 概設 2. 製図用器及材料 3. 建築図法 4. 略設計図 5. 本設計図 (其の一) 意匠の部 6. 本設計図 (其の二) 構図の部	67

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
			Perspective Drawing and The Shadow Method 透視図及陰影法	Drawing 製図	Wajirō KON 今和次郎	1. Introduction 2. Definition and Terminology of Perspective Drawing 3. Line Of Sight and Foot 4. Elimination Point (Attach Line Elimination) 5. Measuring Point 6. Architectural Perspective 7. Architectural Perspective and Examples 8. Perspective Drawing of Shadows 9. Reflection Perspective Method 10. Definition and Terminology of Shadow Drawing 11. Shading Drawing Method 12. Shading of Architecture 13. Architecture Shading and Examples 1. 序論 2. 透視図法の定義及術語 3. 視線及足線 4. 消點 (附 消線) 5. 測點 6. 建築透視図 7. 建築透視図と其實例 8. 陰影の透視図法 9. 反映の透視図法 10. 陰影図法の定義及術語 11. 陰影図法 12. 建築図の陰影 13. 建築図の陰影及其実例	91

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
			Architectural Surveying 建築測量	Implementation Plan 実施計画	Shikasaburō FUJII 藤井鹿三郎	1. Introduction 2. Chain Surveying 3. Mirror Surveying 4. High And Low Surveying 5. Flat Surveying 6. Miscellaneous Detector 7. Area Calculation Method 8. Volume Calculation 9. Surveying Drawing Method 1. 緒論 2. 測鎖測量 3. 轉鏡儀測量 4. 高低測量 5. 平板測量 6. 雜測器 7. 面積計算法 8. 體積の計算 9. 測量製図法	133
	4	Waseda University Architecture Lecture Notes Shōwa 17 th 4 早稲田大学 建築講 義 昭和 17 年 4	Construction Materials 建築材料	Material and Construction 材料及び構造	Kyōji YOSHIDA 吉田亨二 Tutomu SAKAI 酒井勉	1. Introduction 2. Wood And Bamboo Materials 3. Stone, Sand, Gravel 4. Clay Fired Products 5. Cement and Its Products 6. Paint Wall Material 7. Glass and Its Products 8. Metals and Their Products 9. Paint and Putty 10. Waterproofing, Fire Protection, Antiseptic, Etc. 11. Plastic Industrial Products 12. Weaving Industrial Products 13. Hybrid Materials 1. 緒論 2. 木材及竹材 3. 石材、砂、砂利 4. 粘土焼成品 5. セメント及び其製品類 6. 塗壁材料 7. 硝子及び其製品 8. 金属及び其製品 9. 塗料及びパテ 10. 防水、防火、防腐剤等 11. 可塑性工業製品 12. 繊維工業製品 13. 雜種材料	285

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
	5	Waseda University Architecture Lecture Notes Shōwa 17 th 5 早稲田大学 建築講 義 昭和 17 年 5	General Architecture Structural Methods 建築構造一般	Material and Construction 材料及び構造	Saburō SOSHIRODA 十代田三郎	<p>1. Review 2. Foundation 3. Walls and Columns 4. Roof 5. Floor And Floor Covering 6. Stairs 7. Ceiling 8. Joinery And Joiners 9. Miscellaneous 1. 総説 2. 基礎 3. 壁及び柱 4. 屋根 5. 床及床張 6. 階段 7. 天井 8. 建具及び建具様 9. 雑作</p> <p>1. Mechanics of Materials 1.1 Strain Stress and Material Strength 1.2 Properties of Cross-Section 1.3 Simple Stress 1.4 Bending Moment and Sheer Force of Simple Beam 1.5 Continuous Bending Moment and Sheer Force of Fixed Beams 1.6 Beam Theory and Design 1.7 Union Stress 1.8 Column</p> <p>2. Frame Mechanics 2.1 Frame Union 2.2 Stationary Frames 2.3 Minimum Work Principle 2.4 Beam Deflection and Tilt Angle 2.5 Deflection Method 2.6 Fixed Moment Method 2.7 Quad (Or Triple) Moment Method 2.8 High-Rise Multi-Span Rigid Frame</p> <p>1 材料の力学 1.1 応力が歪及び材料の強さ 1.2 断面の性質 1.3 単純応力 1.4 単純梁の曲げモーメント及び剪断力 1.5 固定梁並に連続梁の曲げモーメント及び剪断力 1.6 梁の理論及び設計 1.7 組合応力 1.8 柱</p> <p>2. 架構の力学 2.1 架構の鉛合 2.2 静定架構 2.3 最小仕事の原理 2.4 梁の撓みと傾斜角 2.5 撓角法 2.6 固定モーメント法 2.7 四連 (又は三連) モーメント法 2.8 高層多スパンラーメン</p>	231
	6	Waseda University Architecture Lecture Notes Shōwa 17 th 6 早稲田大学 建築講 義 昭和 17 年 6	Structural Dynamics 構造力学	Material and Construction 材料及び構造	Akira TSURUTA 鶴田明 Isamu ISHII 石井勇 Shoji GOTŌ 後藤正司 Kazuo MINAMI 南和夫	<p>1.1 応力が歪及び材料の強さ 1.2 断面の性質 1.3 単純応力 1.4 単純梁の曲げモーメント及び剪断力 1.5 固定梁並に連続梁の曲げモーメント及び剪断力 1.6 梁の理論及び設計 1.7 組合応力 1.8 柱</p> <p>2. 架構の力学 2.1 架構の鉛合 2.2 静定架構 2.3 最小仕事の原理 2.4 梁の撓みと傾斜角 2.5 撓角法 2.6 固定モーメント法 2.7 四連 (又は三連) モーメント法 2.8 高層多スパンラーメン</p>	336

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
			Earthquake Resisting Construction 耐震構造	Material and Construction 材料及び構造	Kazuo MINAMI 南和夫	1. Earthquake 2. Earthquake Damage 3. Earthquake-Resistant Measures 4. Earthquake-Resistant Method 5. Earthquake-Resistant Calculation Example 1. 地震 2. 震害 3. 耐震方策 4. 耐震計算法 5. 耐震計算例	50
			Wooden Structure 木構造	Material and Construction 材料及び構造	Rokurō ASANO 浅野六郎	1. Introduction 2. Structural Calculation 3. Precautions for Construction 1. 緒説 2. 構造計算 3. 施工上の注意	71
	7	Waseda University Architecture Lecture Notes Shōwa 17 th 7 早稲田大学 建築講 義 昭和 17 年 7	Reinforced Concrete Construction 鉄筋コンクリート構造	Material and Construction 材料及び構造	Akira UENAMI 上浪朗	Part 1. Steel Reinforced Concrete Materials and Theory 1. General 2. Concrete 3. Steel Reinforced 4. Application of Steel-Reinforced Concrete 5. Steel Reinforced Concrete Structure Calculation Theory 6. Steel Reinforced Concrete Beams 7. Steel Reinforced Concrete Columns Part 2. Steel Reinforced Concrete Structural Design 8. Structural Calculation Guidelines 9. Steel Reinforced Concrete Hybrid Structure 10. Steel Reinforced Concrete Building Design 上編 鉄筋コンクリート材料及理論 1. 緒論 2. コンクリート 3. 鉄筋 4. 鉄筋とコンクリートの応用 5. 鉄筋コンクリート構造計算理論 6. 鉄筋コンクリート梁 7. 鉄筋コンクリート柱 下編 鉄筋コンクリート構造設計 8. 構造計算指針 9. 鉄筋コンクリート造各種構造物 10. 鉄筋コンクリート建物の設計	101

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
			Steel Frame Construction 鉄骨構造	Material and Construction 材料及び構造	Tachii NAITŌ 内藤多伸 Ryūzō SUZUKI 鈴木隆藏	1. General 2. Material 3. Structural Design Requirements 4. Joining of Steel 5. Beam 6. Column 7. Truss 1. 結論 2. 材料 3. 構造設計の要件 4. 銀骨の接合 5. 梁 6. 柱 7. トラス	141
			Electric Welding 電気溶接	Material and Construction 材料及び構造	Tsuruda AKIRA 鶴田明	1. General 2. Overview Of Various Welding Methods 3. Basic Points of Arc Welding 4. Welding Joint 5. Detailed Structure 6. Special Welding Joint 7. Construction, Inspection and Construction Costs 8. Appendix 1. 緒論 2. 各種溶接法概要 3. 電弧溶接の基本要目 4. 溶接接手 5. 細部構造 6. 各種溶接接手 7. 施工、検査及び工費 8. 附録	66
			Architecture Electrical Construction 建築電気工事	Equipment 諸設備	Kōji TANISHIKA 谷鹿光治	1. Types of Indoor Electrical Equipment and Power Requirements 2. Type of Wiring Method 3. Precautions for Construction 4. Special Room and Special Equipment 1. 屋内電気装置の種類及び所要電力 2. 配線方法の種類 3. 工事上の注意 4. 特殊室及び特殊装置	53
	8	Waseda University Architecture Lecture Notes Shōwa 17 th 8 早稲田大学 建築講 義 昭和 17 年 8	Mechanical Equipment 建築機械設備	Equipment 諸設備	Ichirō ŌSAWA 大澤一郎	1. General 2. Motor 3. Elevator 4. Pumping Machine 5. Refrigerator And Refrigeration Equipment 6. Kitchen and Cooking Equipment 7. Disinfection and Gas Proofing 8. Incinerator 9. Gas 1. 総論 2. 原動機 3. 昇降機 4. 揚水機 5. 冷凍機及び冷凍設備 6. 厨房、調理設備 7. 消毒及び防毒 8. 焼却炉 9. 瓦斯	170

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
IV	9	Waseda University Architecture Lecture Notes Shōwa 17 th 9 早稲田大学 建築講 義 昭和 17 年 9	Air Conditioning Method 空気調整法	Equipment 諸設備	Tokimasa DOI 土居寛通	<ol style="list-style-type: none"> 1. General 2. Air Pollution and Cleaning Methods 3. Ventilation Method 4. Heating Method 5. Cooling Method 6. Calculation Method of The Amount of Heat Received and The Amount of Heat Dissipated in the Building 7. Ventilation Path 8. Piping and Materials 9. Air Conditioning Equipment 1. 総論 2. 空気の汚染と清浄法 3. 換気法 4. 暖房法 5. 冷房法 6. 建物の (受熱量及び放熱量) 計算法 7. 通風路 8. 配管と材料 9. 空気調整用機器 	166
			Sanitation Equipment 衛生設備	Equipment 諸設備	Ichirō ŌSAWA 大澤一郎	<ol style="list-style-type: none"> 1. Water Supply Equipment and Water Usage 2. Water Well and Source of River 3. Water Properties and Tests 4. Hydraulic Requirements 5. Pump 6. Water Purification Method 7. Water Supply Facility Based on Water Supply 8. Water Supply Piping Equipment 9. Faucets 10. Water Pipe 11. Indoor Fire Extinguishing Equipment 12. Warm Water Method 13. Sanitary Equipment 14. Trap (Deodorant Bun) 15. Drainage Pipes 16. Indoor Drainage 17. Sewage Separation Method 1. 給水設備と水の使用量 2. 井戸及び水源 3. 水の性質及び其の試験 4. 水力学要項 5. ポンプ (揚水機) 6. 浄水法 7. 水道に依る給水設備 8. 給水配管設備 9. 水栓類 10. 給水管 11. 屋内消火設備 12. 給湯法 13. 衛生器具 14. トラップ (防臭弁) 15. 排水管類 16. 屋内排水 17. 汚水處分法 	204

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
	10	Waseda University Architecture Lecture Notes Shōwa 17 th 10 早稲田大学 建築講 義 昭和 17 年 10	Japanese House Construction 日本家屋構造	Material and Construction 材料及び構造	Masaharu FURUTSUKA 古塚正治	1. General 2. Basic 3. Shaft Design 4. Roof Structure 5. Structure of Axis 6. Internal Miscellaneous Structure 7. External Miscellaneous Structure 8. Joinery 1. 総論 2. 基礎 3. 軸部の設計 4. 屋根の構造 5. 軒の構造 6. 内部雑作及び雑構造 7. 外部雑作及び雑構造 8. 建具	169
			Shrines and Temples 社寺	Architecture Plan 建築計画	Kōnosuke SASAKI 佐々木孝之助	1. Introduction 2. Planning 3. Elevation Planning 4. Detailed Method and Structure 1. 序論 2. 平面計画 3. 立面計画 4. 細部の手法及び構造	143
	11	Waseda University Architecture Lecture Notes Shōwa 17 th 11 早稲田大学 建築講 義 昭和 17 年 11	Contract Plan and Equipment 施行計画及設備	Equipment 諸設備	Hiroshi HATORI 羽鳥博	1. Outline 2. Purpose of Construction Planning 3. Scope of Construction Planning 4. Conditions of Construction Planning 5. Ability Data (Working Ability) 1. 概説 2. 施工計画の目的 3. 施工計画の範囲 4. 施工計画の条件 5. 能力資料 (労働能力)	133
			Specification 仕様書	Implementation Plan 実施計画	Buichi KIMURA 木村武一	1. Outline of Construction 2. Main Construction Specifications 1. 工事概要 2. 本工事仕様	86

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
			Integration 見積法（積算 法）	Implementation Plan 実施計画	Yūichi INO 猪野勇一	<ol style="list-style-type: none"> 1. Outline 2. Assume Construction 3. Soil Construction 4. Pile Driving Construction 5. Waterproof and Moisture-Proof Construction 6. Steel Construction 7. Reinforced Construction 8. Concrete Construction 9. Brick Construction 10. Masonry 11. Wood Construction 12. Plastering Construction 13. Thin Sheet Construction 14. Metal Construction 15. Joinery Construction 16. Painting Construction 17. Interior Construction 18. Glass Construction 19. Roofing Construction <ol style="list-style-type: none"> 1. 概説 2. 假設工事 3. 土工事 4. 杭打工事 5. 防水防湿工事 6. 鉄骨工事 7. 鉄筋工事 8. コンクリート工事 9. 煉瓦工事 10. 石工事 11. 木工事 12. 左官工事 13. 薄板工事 14. 金属工事 15. 建具工事 16. 塗装工事 17. 内装工事 18. 硝子工事 19. 屋根葺工事 	145
	12	Waseda University Architecture Lecture Notes Shōwa 17 th 12 早稲田大学 建築講 義 昭和 17 年 12	Sun Light and Lighting 日照、探光及照 明	Special Lecture 特別講義	Kōichirō KIMURA 木村幸一郎	<ol style="list-style-type: none"> 1. Sunshine 2. Solar Heat 3. Daylight 4. Lighting 1. 日照 2. 日射熱 3. 採光 4. 照明 	98
			Sanitation Engineering 保健工学	Equipment 諸設備	Masafumi ITŌ 伊藤正文	<ol style="list-style-type: none"> 1. Introduction 2. Site Hygiene 3. Ventilation Hygiene 4. Dimensional Planning 5. Summary 1. 序論 2. 敷地衛生 3. 換気衛生 4. 寸法計画 5. 総括 	79

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
			Manchuria Architecture 満洲建築	Material and Construction 材料及び構造	Tsutomu HIDEISHIMA 秀島乾	1. The State of Manchuria 2. Material and Labour 3. Cold Protection Structure 4. Heating Equipment 5. Housing 1. 満洲の気象 2. 材料と労力 3. 防寒構造 4. 採暖設備 5. 住宅	97
			Western Countries Garden 西洋庭園	Special Lecture 特別講義	Takuma TONO 戸野琢磨	1. Emphasis on Modern Garden 2. Type and Format of Residential Area 3. Home 4. Each Part of The House 5. Garden Design Method 6. Classification According to Garden Form 7. Classification on The Motif of The Garden 8. Special Garden Design Method 1. 現代庭園の主張 2. 住宅地の種類及び形式 3. 家 4. 住宅の各部分 5. 庭園設計法 6. 庭園形態上の分類 7. 庭園のモチーフ上の分類 8. 特殊庭園の設計法	46
	13	Waseda University Architecture Lecture Notes Shōwa 17 th 13 早稲田大学 建築講 義 昭和 17 年 13	Architectural Acoustics 建築の音響	Special Lecture 特別講義	Akira MIKI 三木韶 Shunzo CHIAKI 千秋晴三	1. Outline 2. Indoor Acoustics 3. Soundproof Structure 4. Broadcasting Hall Building 1. 概説 2. 室内音響学 3. 防音構造 4. 放送会館建築	47
			Architectural Vibration 建築の振動	Special Lecture 特別講義	Sadao KAWASHIMA 川島定雄	1. Vibration Theory 2. Architectural Engineering and Vibration 1. 振動理論 2. 建築工学と振動問題	26

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
			Architectural Regulations Outline 建築法規概論	Implementation Plan 実施計画	Editors by Waseda University Press 早稲田大学	1. General 2. Utility Area 3. Architectural Line 4. Height and Vacant Land 5. Structural Equipment 6. Fireproof District 7. Special Building 8. Artistic Area 9. Exclusion 10. Discipline 11. Construction Execution Procedures 1. 総論 2. 用途地域 3. 建築線 4. 高さ及び空地 5. 構造設備 6. 防火地区 7. 特殊建築物 8. 美観地区 9. 適用除外 10. 處分 11. 工事執行手続き	49
			Japanese-Style Garden 日本庭園	Special Lecture 特別講義	Matsumosuke TATSUI 龍居松之助	1. Features of Japanese-Style Garden 2. History of Japanese-Style Garden 3. Classification of Japanese-Style Gardens 4. Residential Garden 5. Japanese-Style Garden Design 6. Landscaping Materials 7. Landscaping Section 1. 日本庭園の特色 2. 日本庭園の沿革 3. 日本庭園の分類 4. 住宅の庭園 5. 日本庭園の設計 6. 造園材料 7. 造園局部	50
			Housing and Housing Policy 住宅と住宅政策	Architecture Plan 建築計画	Katashi YASUDA 安田臣	1. Housing Culture 2. Housing Planning 1. 住居の文化性 2. 住宅計画	109
	14	Waseda University Architecture Lecture Notes Shōwa 17 th 14 早稲田大学 建築講 義 昭和 17 年 14	Theatre and Cinema 劇場及び映画館	Architecture Plan 建築計画	Motoo TAKE 武基雄	1. History of Theatre Building 2. Trends in Modern Theatre Building 3. Theatre Construction Planning 1. 劇場建築の沿革 2. 現代に於ける劇場建築の趨勢 3. 劇場建築の計画	108

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
			Tearoom 茶室	Special Lecture 特別講義	Masao ISOBE 磯部正男	1. Introduction 2. Tearoom Building 3. Composition of Tearoom 4. Tearoom 1. 序 2. 茶室建築 3. 茶室の構成 4. 茶室	35
	15	Waseda University Architecture Lecture Notes Shōwa 17 th 15 早稲田大学 建築講 義 昭和 17 年 15	Factory Building 工場建築	Architecture Plan 建築計画	Masao HORAOKA 平岡正夫	1. General 2. Appearance 3. Located on the Site 4. Floorplanning 5. Daylight 6. Lighting 7. Ventilation 8. Heating 9. Sanitary Equipment 10. Fire Protection Equipment 11. Transportation Equipment 12. Hazard Prevention Equipment 13. Air Defence Facility 14. Special Equipment 15. Summary 1. 総論 2. 外観 3. 敷地竝に配置 4. 型竝に間取 5. 採光 6. 照明 7. 換気 8. 暖房 9. 衛生設備 10. 防火設備 11. 運搬設備 12. 危害予防設備 13. 防空施設 14. 特殊設備 15. 総括	83
			Power Station Building 発電所建築	Architecture Plan 建築計画	Asahi KAGAWA 監川旭	1. General 2. Thermal Power Station 3. Hydroelectric Power Station 1. 総論 2. 火力発電所 3. 水力発電所	79
			Hotel and Restaurant ホテル及レスト ラント	Architecture Plan 建築計画	Kyōji YOSHIDA 吉田亨二 Tokiji CHŪZENJI 中善寺登喜次	1. Planning Concept 2. General Planning 3. Building Planning 4. Equipment Concept 1. 計画概念 2. 一般計画 3. 建築計画 4. 設備概念	56

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
			Office Building 貸事務所	Architecture Plan 建築計画	Yoshikiyo SATŌ 佐藤良清	1. Overview of Office Building 2. Architectural Planning 3. Floor Planning 4. Design Of Building Details 5. Elevator 6. Fireproof Evacuation Equipment 7. Structural Planning 8. Incidental Equipment 9. High-Rise Buildings and Urban Problems 1. 事務所建築發達の概要 2. 建築計画に就いて 3. 平面計画 4. 建物細部の設計 5. 昇降機 6. 防火避難設備 7. 構造計画 8. 附帯設備 9. 高層建築と都市問題	50
			School Building 学校建築	Architecture Plan 建築計画	Masafumi ITŌ 伊藤正文	1. Introduction 2. Basic Design 3. Partial Design 4. Equipment Design 5. Construction Cost Finance 1. 緒論 2. 基本設計 3. 部分設計 4. 設備設計 5. 工費経済	48
	16	Waseda University Architecture Lecture Notes Shōwa 17 th 16 早稲田大学 建築講 義 昭和 17 年 16	Library 図書館	Architecture Plan 建築計画	Kenji IMAI 今井兼次	1. Introduction 2. Overview of History 3. General Library Problems 4. Plan 5. Details of Each Room 1. 序 2. 沿革の概要 3. 図書館一般問題に就いて 4. 計画 5. 各室に就いて	71
			Physical Education Facility 体育施設	Architecture Plan 建築計画	Kōichi SUGIURA 杉浦光一	1. Indoor Sports Facility 2. Outdoor Sports Facility 1. 室内體育施設 2. 屋外體育施設	77

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
			Drilling Building 錬成建築	Architecture Plan 建築計画	Asahi KAGAWA 監川旭	1. General 2. Design of Drilling Architecture 1. 総論 2. 錬成建築の設計	46
			Hospital Building 病院建築	Architecture Plan 建築計画	Genmosuke ŌSAWA 大澤源之助	1. General 2. Introduction 3. Type of Hospital 4. Site 5. Floor Planning 6. Required Room 7. Explanation of Each Room 8. Special Hospital 9. Hospital Equipment Extraction 1. 緒言 2. 概論 3. 病院の種類 4. 敷地 5. 平面計画 6. 所要室 7. 各室説明 8. 特殊病院 9. 病院諸設備抄	63
			Store 商店	Architecture Plan 建築計画	Kyōji YOSHIDA 吉田享二 Tokiji CHŪZENJI 中善寺登喜次	1. General 2. General Plan 3. Store Planning 4. Inside of Store Planning 5. Daylighting and Lighting 6. Incidental Equipment 1. 総論 2. 一般計画 3. 店頭の計画 4. 店舗内の計画 5. 採光と照明 6. 附帯設備	85
	17	Waseda University Architecture Lecture Notes Shōwa 17 th 17 早稲田大学 建築講 義 昭和 17 年 17	Warehouse 倉庫	Architecture Plan 建築計画	Katsunari KITAMURA 北村勝成	1. Concept of Shed and Rehouse 2. Concept of Cargo 3. Concept of Cargo Handling Equipment 4. Shed 5. Warehouse 6. Special Warehouse 1. 上屋及び倉庫の概念 2. 貨物の概念 3. 荷役設備の概念 4. 上屋 5. 倉庫 6. 特殊倉庫	59
			Bank 銀行	Architecture Plan 建築計画	Takeo YASUI 安井武雄	1. General 2. Bank History 3. Bank Administrative Organization 4. Building Planning 1. 総論 2. 銀行の沿革 3. 銀行の事務組織 4. 建築計画	73

Set	Number	Book	Title	Classification	Instructors /Professors	Catalogue	Pages
			Airport 空港	Architecture Plan 建築計画	Fuminaga KIYOTA 清田文永	1. Basic Considerations for Airport Planning 2. Airport Planning 1. 空港計画の基礎的考察 2. 空港計画	56
			Air Defense Facility 防空施設	Architecture Plan 建築計画	Kosuke HISHIDA 菱田厚介 Ken'ichi USUI 碓井憲一	1. Introduction 2. Air Defense Monitoring Communication Alarm 3. Light Control 4. Camouflage 5. Fire Protection 6. Bulletproof 7. Gas Proofing 8. Shelter Facility 1. 緒論 2. 防空監視通信警報 3. 燈火管制 4. 偽装 5. 防火 6. 防弾 7. 防毒 8. 待避施設	80

3.5 Conclusion

In view of the difficulties during the founding period and the reality that the professors' salaries were meager, SATŌ proposed the establishment of the Waseda Technical School for craftsmen to continue the education of students at night. At the same time, under the initiative of TAKATA, the Department of Architecture also began to issue architectural lecture books to serve those who did not have the time or money and those who lived far away which expanded the popularity of architectural education of Waseda University as much as possible.

The *Waseda Architectural Lecture Notes* were first published in October 1929 (Shōwa 4th) and last in March 1944 (Shōwa 19th) and were issued for the original edition and 26 times. The original edition, the first edition and the second edition were published in six volumes included *Overview and History*, *Material and Construction Implementation Plan*, *Equipment Drawing* and *Architecture Plan*. The third edition to the final edition were published 18 volumes. The whole education lasted one and a half years for each student. The *off-campus* students enrolled in the correspondence education can use the Waseda University Library. No diplomas were issued upon completion of the course. Still, the students could choose to take the graduation examinations which allowed them to automatically become regular Waseda University students if they pass the exam.

The analyses and comparisons above showed that the current volumes were mostly stored at Waseda University, covering the versions throughout 1929 (Shōwa 4th), 1932 (Shōwa 7th), 1940 (Shōwa 15th) and 1942 (Shōwa 17th). Only “*Machinery Equipment*” underwent significant changes in the first three versions. Significant changes were made to subject allocation between the last two performances, and we will address the rationale in the discussion chapter-Chapter 4.

References

In sequential order

- WASEDA UNIVERSITY PRESS. 1986. *Waseda University Press: A History of 100 Years*. Tokyo: WASEDA UNIVERSITY PRESS.
- Hanyang WANG and Masaki KOIWA. 2021. “A Historical Perspective of Architecture Education at Waseda University in Japan: Analyses of the Waseda Architecture Lecture Notes for Correspondence Education in the early Shōwa Period”. *Journal of Asian Architecture and Building Engineering*.
<https://doi.org/10.1080/13467581.2021.1903904>
- WASEDA UNIVERSITY. 1929. *Waseda University Architecture Lecture Notes Shōwa 4th -Suzuki Collection*. Tokyo: WASEDA UNIVERSITY PRESS.
- WASEDA UNIVERSITY. 1932. *Waseda University Architecture Lecture Notes Shōwa 7th - No Cover*. Tokyo: WASEDA UNIVERSITY PRESS.
- WASEDA UNIVERSITY. 1940. *Waseda University Architecture Lecture Notes Shōwa 15th*. Tokyo: WASEDA UNIVERSITY PRESS.
- WASEDA UNIVERSITY. 1942. *Waseda University Architecture Lecture Notes Shōwa 17th*. Tokyo: WASEDA UNIVERSITY PRESS.

Chapter 4

A Review and Comparison of the Contents about the *Waseda Architectural Lecture Notes*

4.1 A Review of the Contents

4.2 Examination of the Reasons for Content Changes

4.3 The Comparison of the Content with the Internal Architectural Education at Waseda
University

4.4 Conclusion

4.1 A Review of the Contents

The two years between 1942 (Shōwa 17th) edition and the previous 1929 (Shōwa 4th), 1932 (Shōwa 7th), 1940 (Shōwa 15th) edition witnessed significant changes in the subject allocation and course contents. The detailed difference can be found in Table 4.1 as follows.

Table 4.1 The changes in the subject allocation and course contents among the four editions.

Set	Number	Title	Remark
IV	1	Architecture Outline 建築汎論	As for the architectural history, we compared the contents of the different versions of the Waseda University Lecture Notes samples from Shōwa 5 th , Shōwa 7 th and Shōwa 17 th . We find that the Japanese architectural history during this period did not undergo significant change, while one chapter of prototype architecture was deleted from Western architectural history. Therefore, no exceptional development was seen within the education of the subject of architectural history.
		Japanese Architectural History 日本建築史	
	2	Orient Architectural History Outline 東洋建築史概説	
		Western Countries Architectural History 西洋建築史	As for the architectural history, we could not conduct a comprehensive comparison due to the lack of reserve at hand. We only have the version from Shōwa 17 th .
	3	Drafting Method 製図法	Same as above
		Perspective Drawing and The Shadow Method 透視図及陰影法	
		Architectural Surveying 建築測量	As for the survey, compass measurement and instrumental correction have been deleted.
	4	Construction Materials 建築材料	
	5	General Architecture Structural Methods 建築構造一般	The contents are basically the same but were re-edited and adjusted in the teaching sequence.
	6	Structural Dynamics 構造力学	The versions from Shōwa 4 th and Shōwa 15 th are organized around the powerful beams and frames as the core of the curriculum. However, in the Shōwa 17 th version, beams and frames are integrated into Chapter 2, the Frame Mechanics. Chapter 3 and Chapter 4 of Shōwa 4 th , are both expanded from the original building to the mechanics of the building itself and the surroundings.

Set	Number	Title	Remark
		Earthquake Resisting Construction 耐震構造	
	7	Wooden Structure 木構造	
		Reinforced Concrete Construction 鉄筋コンクリート構造	
		Steel Frame Construction 鉄骨構造	
		Electric Welding 電気溶接	
	8	Architecture Electrical Construction 建築電気工事	The chapter on significance for buildings is abridged compared to the Shōwa 4 th version.
		Mechanical Equipment 建築機械設備	The Shōwa 15 th version adds two chapters based on the Shōwa 4 th version, and the Shōwa 17 th version adds three more additional chapters.
	9	Air Conditioning Method 空気調整法	Some of the previous contents about heating/cooling settings are integrated into two chapters here. Information about air equipment is added.
		Sanitation Equipment 衛生設備	
	10	Japanese House Construction 日本家屋構造	Same as above
		Shrines and Temples 社寺	
	11	Contract Plan and Equipment 施行計画及設備	The Shōwa 4 th version focuses on microscopic demonstrations of the construction equipment; the Shōwa 17 th version, instead, focuses on a broad picture of the whole building, and teaches through reviewing the construction purposes and the scopes of construction of the buildings.
		Specification 仕様書	The content about wooden construction works discussed by the Shōwa 4 th version is moved to the syllabus of the new course, Wood Construction.
		Integration 見積法（積算法）	Chapters are re-sequenced, but the contents basically remain the same.
	12	Sun Light and Lighting 日照、採光及照明	The versions from Shōwa 4 th and Shōwa 15 th explain in detail the relationship between sunlight and buildings, including the location of the sun, the physical features of the sunlight, and the illuminance spectrum of all kinds of light through the windows. The Shōwa 17 th version compresses everything into the first chapter, and adds the discussion of manual control of lighting into the rest of the chapters.

Chapter 4
A Review and Comparison of the Contents about the *Waseda Architectural Lecture Notes*

Set	Number	Title	Remark
		Sanitation Engineering 保健工学	The same content is discussed in the original Ventilation Equipment course.
		Manchuria Architecture 満州建築	Newly added
	13	Western Countries Garden 西洋庭園	
		Architectural Acoustics 建築の音響	The Shōwa 17 th version has two additional pages of summary on this theme, which cover audible sounds, volume, language clarity, etc. Chapter 2 is renamed but the contents remain largely the same, except that the last section on noise prevention is integrated into Chapter 3. The Shōwa 17 th version is more focused in terms of content allocation. Meanwhile, it also adds a new chapter on architecture of broadcasting centres. I will attempt to analyze the underlying rationale connected to the social context.
		Architectural Vibration 建築の振動	
		Architectural Regulations Outline 建築法規概論	Compared with the Shōwa 4 th version, some contents from two different chapters are combined into one chapter, and a new chapter of fire-resistant areas is added.
		Japanese-Style Garden 日本庭園	
	14	Housing and Housing Policy 住宅と住宅政策	Versions before Shōwa 15 th are more focused on teaching equipment-related contents. The newer versions also include that of design related.
		Theatre and Cinema 劇場及び映画館	The design part from the Shōwa 4 th version only introductory discusses the stage. The Shōwa 17 th version, instead, elaborates on the comprehensive functional design of the whole theatre.
		Tearoom 茶室	
	15	Factory Building 工場建築	The versions from Shōwa 4 th and Shōwa 15 th are the same. They focus on the detailed due diligence when selecting the location for the factory and the explanations of each different tectonic component. More attention is devoted to the design and construction of the building itself, and less towards the functions such as lighting and construction equipment, which only take up 25 pages. The Shōwa 17 th version abridges the former part of design and construction into a 15 pages brief summary in the first two chapters. It diverts the focus to the elaboration of different equipment types and how to select them. This essentially reveals the Lecture Notes' inclination towards tectonic equipment.
		Power Station Building 発電所建築	

Set	Number	Title	Remark
		Hotel and Restaurant ホテル及レストラン	A single Chapter 2 from the Shōwa 4 th version is enriched and expanded into three chapters of detailed elaborations.
		Office Building 貸事務所	The fireproof evacuation equipment part is newly added compared with the Shōwa 4 th version.
	16	School Building 学校建築	The versions from Shōwa 4 th and Shōwa 15 th are the same. They focus on the teaching of building functions and spend 11 chapters on the school architecture. The contents are consolidated into a single chapter in the Shōwa 17 th version, and the remaining chapters turn to discuss tectonics and equipment.
		Library 図書館	
		Physical Education Facility 体育施設	
		Drilling Building 錬成建築	
		Hospital Building 病院建築	
	17	Store 商店	Chapter 6 and Chapter 7 from the Shōwa 15 th version are consolidated into the new Chapter 6.
		Warehouse 倉庫	Same as above
		Bank 銀行	Same as above
		Airport 空港	
Air Defense Facility 防空施設			

The most significant additions were *Manchurian Architecture*, *Wooden Structures*, and *Sports Facilities*. Again, design-related courses mainly remained intact. Three courses were deleted, but when we investigated the specific details, we found that the focus on design was adjusted. More course materials were dedicated to tectonics and equipment, which in effect increased the proportion of education in tectonic equipment.

4.2 Examination of the Reasons for Content Changes

4.2.1 Educational background of teachers editing the Notes

As we compiled this Table 4.2 below, we learned that most teachers at Waseda University were graduates from Tokyo Imperial University and Waseda University during that time. Only a few others had studied abroad. Teachers who studied in American Universities, like Cornell University, mostly taught Western Gardens. On the other hand, teachers with a traditional background and graduates of Japanese elite schools taught Japan-centered courses. This implied that the architectural education conducted at Waseda University during the Shōwa Period mostly followed Japanese university education traditions and were led by Tokyo University alumni like Professor Kōichi SATŌ.

Table 4.2 Educational background of the teachers in Shōwa 17th edition.

Instructors/Professors	Academic background	Major	Biography
Kōichi SATŌ 佐藤 功一	Tokyo Imperial University	Architecture 建築学	Graduated in 1903
Yasushi TANABE 田邊 泰	Waseda University	Architectural History · Art History 建築史・美術史	12 th graduate of Waseda University (1924)
Chūta ITŌ 伊東 忠太	The University of Tokyo	Architectural History 建築史	Graduated in 1892
Kōichirō KIMURA 木村 幸一郎	Waseda University	Environmental engineering 環境工学	7 th graduate of Waseda University (1919)
Motoo TAKE 武 基雄	Waseda University	Architectural Design 建築設計	25 th graduate of Waseda University (1937)
Wajirō KON 今 和次郎	Tokyo University of the Arts	Architecture · Residential Design 建築学、住居生活や 意匠研究	Graduated in 1912
Shikasaburō FUJII 藤井鹿三郎	Unknown	Unknown	Unknown
Kyōji YOSHIDA 吉田 享二	Tokyo Imperial University	Architectural materials 建築材料学	Graduated in 1912
Tsutomu SAKAI 酒井 勉	Waseda University	Architecture 建築学	15 th graduate of Waseda University (1927)
Saburō SOSHIRODA 十代田三郎	Waseda University	Study on fire prevention and ant prevention of wooden construction 木造建築の防火や防蟻などの研究	7 th graduate of Waseda University (1919)
Akira TSURUTA 鶴田 明	Waseda University	Specialized in steel structure and welding 鉄骨構造や溶接などが専門域	18 th graduate of Waseda University (1930)

Chapter 4
A Review and Comparison of the Contents about the *Waseda Architectural Lecture Notes*

Instructors/Professors	Academic background	Major	Biography
Isamu ISHII 石井 勇	Waseda University	Architecture 建築学	15 th graduate of Waseda University (1927)
Shoji GOTŌ 後藤 正司	Waseda University	Civil engineering 土木工学	25 th graduate of Waseda University (1937)
Kazuo MINAMI 南 和夫	Massachusetts Institute of Technology (Waseda University)	Civil engineering 土と基礎	MIT's Department of Architecture and Construction Engineering, Civil Engineering and Sanitary Engineering Master's Course. From 1948, he worked at Tachū Naitō's office. After that, he studied soil engineering and basic engineering at the Graduate School of Science and Engineering at Waseda University.
Rokurō ASANO 浅野六郎	Waseda University	Architecture 建築学	20 th graduate of Waseda University (1932)
Akira UENAMI 上浪 朗	Tokyo Imperial University	Architecture 建築学	Graduated in 1922
Tachū NAITŌ 内藤多仲	Tokyo Imperial University	Architecture 建築学	During 1917-1918, one year study abroad in USA
Ryūzō SUZUKI 鈴木隆藏	Waseda University	Architecture 建築学	12 th graduate of Waseda University (1924)
Kōji TANISHIKA 谷鹿光治	Waseda University	Electrical engineering 電気工学	14 th Chairman of Waseda Electrical Engineering Society
Ichirō ŌSAWA 大澤一郎	Waseda University	Construction equipment engineering 建築設備工学	2nd Graduate of Waseda University (1914)/Studying at the University of Illinois as the first international student of Waseda University.
Tokimasa DOI 土井季正	Waseda University	Architecture 建築学	16 th graduate of Waseda University (1928)
Masaharu FURUTSUKA 古塚正治	Waseda University	Architecture 建築学	3 rd graduate (1915)
Kōnosuke SASAKI 佐々木孝之助	Waseda University	Architecture 建築学	10 th graduate (1922)
Hiroshi HATORI 羽鳥博	Waseda University	Architecture 建築学	19 th graduate (1931)
Buichi KIMURA 木村武一	Waseda University	Architecture 建築学	1 st graduate (1913)
Yūichi INO 猪野勇一	Waseda University	Architecture 建築学	10 th graduate (1922)
Masafumi ITŌ 伊藤正文	Waseda University	Architecture 建築学	5 th graduate (1917)
Tsutomu HIDEISHIMA 秀島乾	Waseda University	Urban planning 都市計画のコンサル タント	24 th graduate (1936)/Manchuria Transportation Planning Department
Takuma TONO 戸野琢磨	Cornell University	Landscape 庭園学/ランドスケ ープ学科	The first Japanese to earn a degree from an American university in the field of landscaping, after returning to Japan, he established the first landscape design firm and landscape consultant to develop design activities.
Akira MIKI 三木 韶	Waseda University	Construction acoustics 建築音響/振動	22 nd graduate of Waseda University (1934)
Shunzo CHIAKI 千秋晴三	Waseda University		24 th graduate of Waseda University (1936)

Chapter 4
A Review and Comparison of the Contents about the *Waseda Architectural Lecture Notes*

Instructors/Professors	Academic background	Major	Biography
Sadao KAWASHIMA 川島定雄	Waseda University	Construction acoustics 建築音響/振動	18 th graduate of Waseda University (1930)
Matsunosuke TATSUI 龍居松之助	Tokyo Imperial University	Landscape 造園学 /住宅史の研究	Graduated in 1911
Katashi YASUDA 安田臣	Waseda University	Architecture 建築学	25 th graduate of Waseda University (1937)
Masao ISOBE 磯部正男	Waseda University	Architecture 建築学	19 th graduate of Waseda University (1931)
Masao HORAOKA 平岡正夫	Waseda University	Architecture 建築学	14 th graduate of Waseda University (1926)
Asahi KAGAWA 監川旭	Waseda University	Architecture 建築学	20 th graduate of Waseda University (1932)
Tokiji CHŪZENJI 中善寺登喜次	Waseda University	Architecture 建築学	23 rd graduate of Waseda University (1935)
Yoshikiyo SATŌ 佐藤良清	Waseda University	Architecture 建築学	13 th graduate of Waseda University (1925)
Kenji IMAI 今井兼次	Waseda University	Architecture 建築学	He travelled from Soviet to Scandinavian and European countries, and touched on modernist works such as Bauhaus, as well as Antoni Gaudi, Estberg and Steiner's (unlike modernist) works. After returning to Japan, he made a significant contribution to introducing these works to Japan, and he pioneered as an introducer of Gaudi.
Kōichi SUGIURA 杉浦光一	Waseda University	Architecture 建築学	15 th graduate of Waseda University (1927)
Gennosuke ŌSAWA 大澤源之助	Waseda University	Architecture 建築学	4 th graduate of Waseda University (1916)
Katsunari KITAMURA 北村勝成	Waseda University	Architecture 建築学	11 th graduate of Waseda University (1923)
Takeo YASUI 安井武雄	Tokyo Imperial University	Architecture 建築学	Graduated in 1910
Fuminaga KIYOTA 清田文永	Waseda University	Architecture 建築学	23 rd graduate of Waseda University (1935)
Kosuke HISHIDA 菱田厚介	Tokyo Imperial University	Urban planning 都市計画	After the Great Kanto Earthquake in 1923, he became an engineer of the Teito Reconstruction Agency and the Reconstruction Bureau of the Ministry of Interior. In 1924 Moved to the Secretariat of City Planning Division.

4.2.2 Subject allocation of the Notes

A further review of the subject allocation of the Notes, based on the comparisons deliberated in section 4.1 of version Shōwa 17th, was summarized in Figure 4.1, presenting the composition of the lecture notes and the pages dedicated to each subject.

Courses concerning tectonics took up the most significant part of the notes, while the architecture plan followed, and equipment ranked the 3rd. The history of architecture was only covered in the 1942 (Shōwa 17th) edition and took up the smallest percentage.

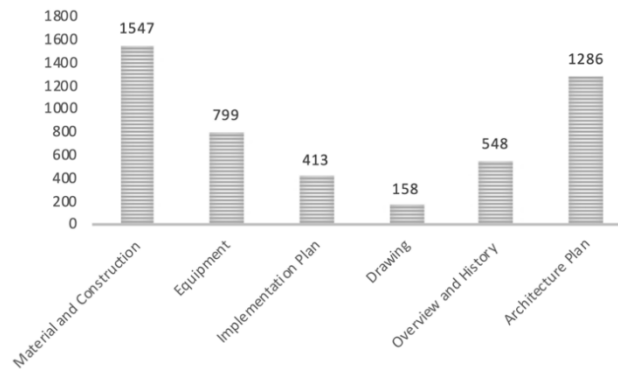


Figure 4.1 Subject allocation of the Notes in Shōwa 17th edition.

4.2.3 Specific content analysis

As summarized above, tectonics related courses constituted a significant part of all the notes. The writings teaching these subjects, were also among the most detailed and in-depth. Most of them could be classified into Japanese Home Tectonics, General Tectonic Methods and Tectonic Mechanics. These three categories made up a total of 1547 pages, most of all the subjects. This reflected the particular emphasis that the Japanese architects had placed on architectural tectonics, as demands for buildings and structures that were resistant to earthquakes and fires surged during that time. This phenomenon could possibly be attributed to the tragic 1923 Great Kantō earthquake. This boost got reiterated during the 1940 (Shōwa 15th) and 1942 (Shōwa 17th) editions, as Japan further implemented a stricter requirement for resistance to earthquakes and fires in buildings.

The second-largest category of content was architectural design. Most related courses were categorized by the buildings' functions, as for each type of building serving a specific purpose, the teachers arranged for a separate subject. Within each subject, the notes started with general concepts, and the first one-third of the notes was devoted to floor plans and elevations, and the rest followed the course structures of those of tectonics courses. Depending on the specific function a building serves, the notes elaborated on each component of the building structure's tectonic purposes and equipment organization. This teaching method also in part reflected the significance of tectonics and equipment in the architecture education realm. Within the design part of the courses, the subject allocation was mostly consistent.

The third-largest category of content was architectural equipment. The notes went into careful detail to discuss and teach the five significant categories of equipment widely present in buildings and structures: hygienic equipment, ventilating equipment, machinery equipment, heating/cooling equipment, and construction equipment.

Another new subject that was added in the Shōwa 15th edition and Shōwa 17th edition was Wooden Structures. Japan tightened regulations on the use of materials and munitions, which in part led to the architectural trend of saving steel when constructing concrete and steel structures, and the increasing research into how to revolutionize and promote wooden buildings.

4.3 The Comparison of the Content with the Internal Architectural Education at Waseda University

The previous section summarized the changes in the content of the *Waseda Architectural Lecture Notes* and the reasons for these changes. Based on the educational background of the faculty members who wrote the *Waseda Architectural Lecture Notes*, the following section compares internal architectural education of the Department of Architecture and the Waseda Technical School in order to determine the level of architectural education of the *Waseda Architectural Lecture Notes*.

4.3.1 Internal comparison: the Waseda Technical School at Waseda University

In chapter 3, the author identifies the period from October 1929 (Shōwa 4th) to April 1944 (Shōwa 19th) for the publication of the *Waseda Architectural Lecture Notes*, and for this time frame, the author has counted the curriculum in 1929 (Shōwa 4th) and 1942 (Shōwa 17th) in the *Essentials of the Waseda Technical School*, as shown in the table 4.3 below.

Table 4.3 The curriculum of the Waseda Technical School in 1929 and 1942.

Categories	1929 (Shōwa 4 th)	1942 (Shōwa 17 th)
Architectural History	Architectural history	Architectural history
		History of Japanese Architecture
		History of Western Architecture
Structure and materials	Building Construction Method	Building Construction Method
	Iron Bone Construction	Iron Bone Construction
	Construction Materials	Construction Materials
	Architecture	Architecture
	Reinforced concrete construction	Reinforced concrete construction
	Japanese Architecture	Japanese Architecture
Measurement	Measurement	
	Measurement Practice	Measurement Practice
	Construction method	Construction method
Regulations	Building Code	Building Code
Equipment	Equipment for machinery	Equipment for machinery
Basic Design	Drawing	Drawing
	Architectural drawing method	Architectural drawing method
	Decorative painting	Decorative painting
	Architectural Decoration	Architectural Decoration
	Construction	The Artisan Project
		Building Plan Overview
Other	General Construction Knowledge	

The following figure 4.2 gives a clearer image of the ratio of the two.

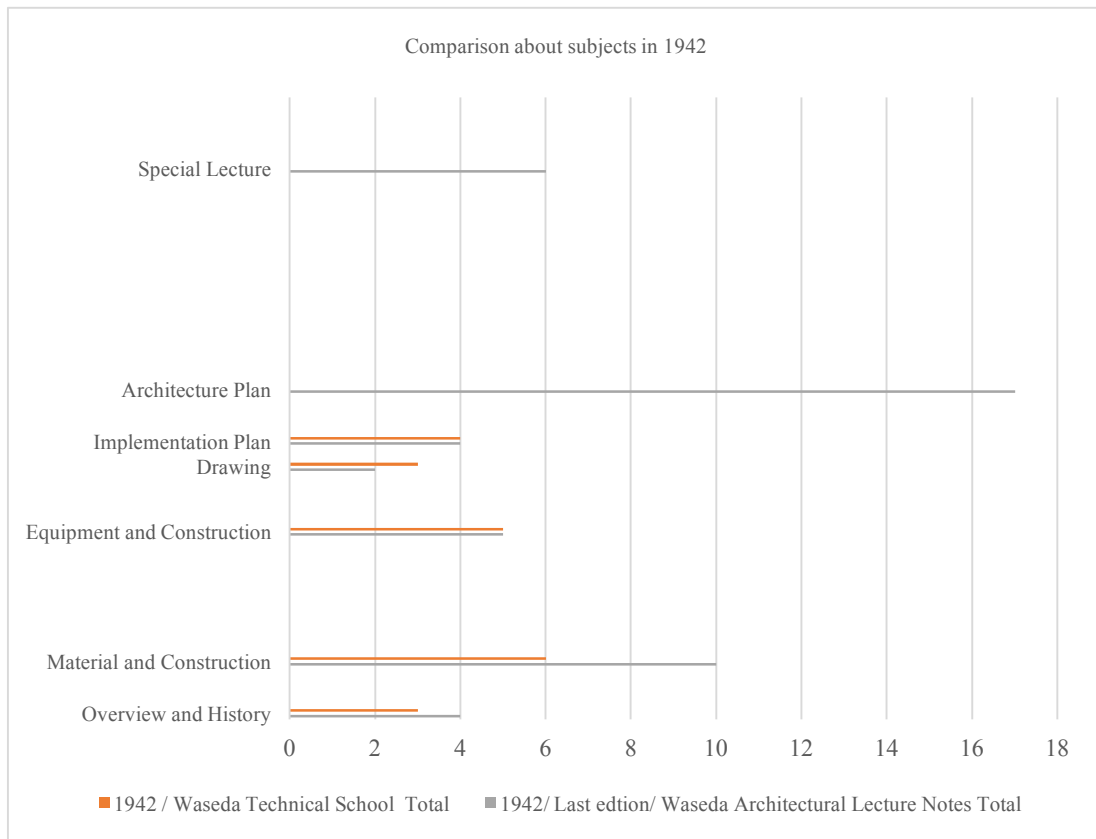
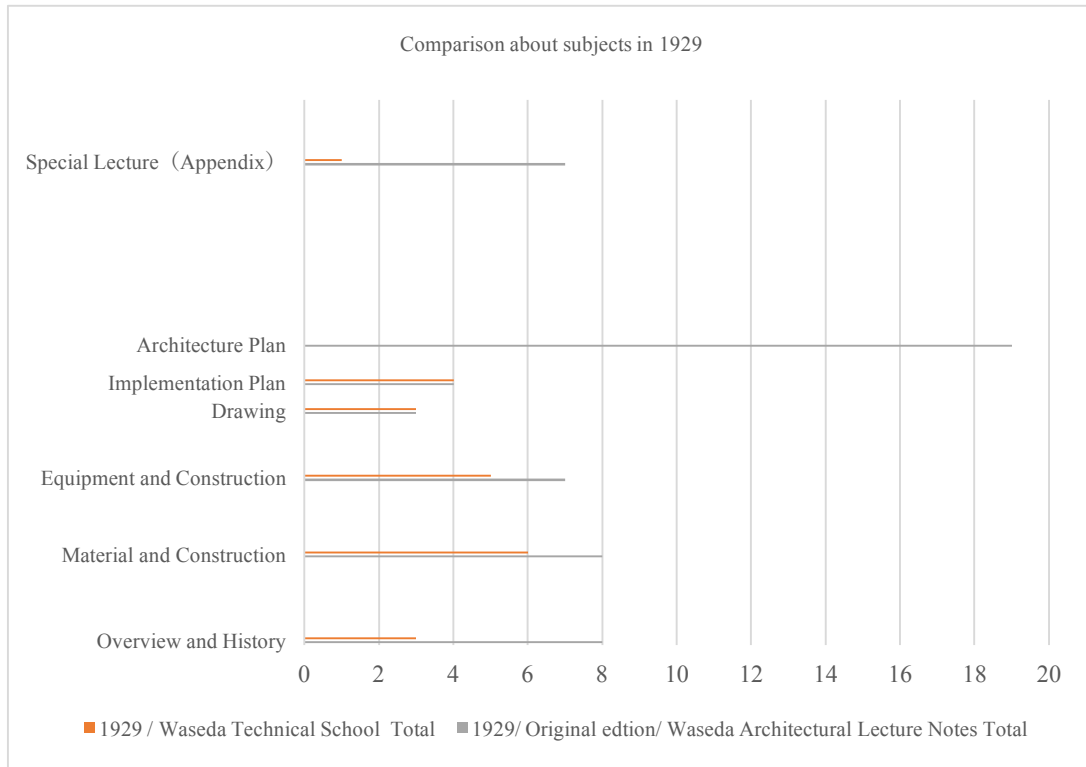


Figure 4.2 The distribution of subject allocation between the *Waseda Architectural Lecture Notes* and the Waseda Technical School in 1929 and 1942.

The above comparison shows that there is a significant difference between the *Waseda Architectural Lecture Notes* and the Waseda Technical School in terms of the curriculum, with the former being more balanced in terms of subject allocation and the latter placing more emphasis on technical subjects such as practical construction, implementation and materials.

4.3.2 Internal comparison: the Department of Architecture at Waseda University

In Chapter 2, the author provided an overview of the teaching set-up of the architectural discipline at Waseda University in its infancy. In addition, Chapter 3 identifies the period from October 1929 (Shōwa 4th) to April 1944 (Shōwa 19th) for the publication of the *Waseda Architectural Lecture Notes*, and for this time frame, the author investigates the teaching set-up of the architectural discipline about the Department of Architecture after 1920 (Taishō 9th), as shown in the table 4.4.

Table 4.4 The configuration of disciplines of the Department of Architecture at Waseda University from 1929 to 1944.

Classification	1922-1934			1935-1944		
	Title	Instructors	Classification	Title	Instructors	Instructors
History	Western Countries Architectural History	Kōichi SATŌ	History	Western Countries Architectural History	Kōichi SATŌ	Kōichi SATŌ
	Orient Architectural History Outline	Chūta ITO		Orient Architectural History Outline	Chūta ITO	Chūta ITO
	Modern Architecture Outline	Shin'ichirō OKADA		Japanese Architectural History	Japanese Architectural History	Yasushi TANABE
	Craft Art History	Tari MORIGUCHI		Craft Art History	Craft Art History	Tari MORIGUCHI
	Decoration method	Shin'ichirō OKADA				
	Architecture and Exercises	Tachū NAITŌ			Building Construction Method	Saburō SOSHIRODA
	Structural Dynamics	Tachū NAITŌ			Architecture and Construction (Mechanics)	Isamu ISHII
	Steel Frame Construction	Tachū NAITŌ			Architecture and Construction (Iron Reinforcement)	Tachū NAITŌ
	Architecture Structural Methods	Yō TOKUNAGA			Architecture and Construction (Iron Bone)	Tachū NAITŌ
	Construction Materials	Kensuke MORII			Architecture (Special Topics)	Tachū NAITŌ
Material Construction			Material Construction	Vibration-resistant construction	Tachū NAITŌ	
				B Structure Exercise	Tachū NAITŌ	
				Seismology	Tachū NAITŌ	
				Construction Materials and Practical Views	Kouji YOSHIDA	
Regulations	Regulations and Application	Yoshitarō TAKEUCHI	Regulations	Material Strength and Mechanics		
				Regulations and Application	Yoshitarō TAKEUCHI	

1922-1934			1935-1944		
Classification	Title	Instructors	Classification	Title	Instructors
Equipment	Water supply and drainage		Equipment	Architecture Equipment	Ichirō ŌSAWA
	Mechanical Engineering Overview			C Equipment Exercise	Ichirō ŌSAWA
Construction	Warming Room		Construction	Construction	Yō TOKUNAGA
	Measurement	Shikasaburō FUJII		Measurement and Practice	Shikasaburō FUJII
	Project implementation and planning method				
	Residential Building	Kōichi SATŌ		Design Drawing Method	Kyōji YOSHIDA Kenji IMAI
	Architecture Design	Shin'ichiro OKADA		Artisan and Decoration Exercise	Wajirō KON Yasushi TANABE
	Perspective and Rules	Wajirō KON		Construction Plan	Kouichi SATŌ Kouji YOSHIDA
Basic Design and Design Drawing	Free-hand Painting	Kenji IMAI	Basic Design and Design Drawing	Constructive Aesthetics	Kanji IMAI Takeo SAITO Jiro IMAWA
	Sample diagram	Kōichi SATŌ		Architectural decoration method	Kanji IMAI Wajirō KON Kenji IMAI
	Sculpture	Hirosaburo TAKESHI		A Design Exercise	Shikasaburō FUJII
	Decorative painting	Imawa JIRO		Surveying	Tadashi YAMAMOTO
	Decoration method	Shin'ichiro OKADA		Electrical Engineering	
	Architecture Drawing	Wajirō KON		Industrial Mathematics	
Others	Landscape Architecture	Kenji IMAI	Others	Industrial Mathematics	
	Acoustics			Industrial Economy	

1922-1934		1935-1944			
Classification	Title	Instructors	Classification	Title	Instructors
	Urban Project	Kyōji YOSHIDA		Workplace Management Act	
	Industrial Economy			Chemical Industry	
	Workplace Management Act			Mining Co-Study	Yo TOKUNAGA
	Foreign Language			Foreign Language	

As can be seen from the figure, there was a disciplinary reorganization of the architectural discipline at Waseda University between 1929 (Shōwa 4th) and 1944 (Shōwa 19th), using 1934 (Shōwa 7th) as the dividing line, so the author compares the disciplinary configuration of the architectural discipline at Waseda University through two series, the first 1929 (Shōwa 4th) and the last 1942 (Shōwa 17th) issues of the *Waseda Architectural Lecture Notes*.

The first comparison is for 1929 (Shōwa 4th), as shown in the table 4.5.

Table 4.5 Comparison about subjects in 1929.

Classification	1929/ Original edition/ <i>Waseda Architectural Lecture Notes</i>			1929 / Department of Architecture at Waseda University				
	Title	Instructors	Total	Classification	Title	Instructors	Total	
Overview and History	Architecture Outline	Kōichi SATŌ	8	History	Orient Architectural History Outline	Chūta ITO	5	
	Orient Architectural History Outline	Chūta ITO			Western Countries Architectural History	Western Countries Architectural History		Kōichi SATŌ
	Western Countries Architectural History (1)	Kōichi SATŌ, Mamoru NAKAMURA			Japanese Architectural History	Modern Architecture Outline		Shin'ichirō OKADA
	Western Countries Architectural History (2)	Yasushi TANABE			Configuration Art Argument	Craft Art History		Tari MORIGUCHI
	Japanese Architectural History	Wajirō KON			Modern Architecture Outline	Decoration method		Shin'ichirō OKADA
	Configuration Art Argument	Kenji IMAI			Craft Art History	Construction Materials		Kensuke MORII
	Modern Architecture Outline	Tari MORIGUCHI			Decoration method	Structural Dynamics		Tachū NAITŌ
	Craft Art History	Shin'ichirō OKADA			Steel Frame Construction	Structural Dynamics		Tachū NAITŌ
	Decoration method	Kyōji YOSHIDA, Tsutomu SAKAI						
	Construction Materials	Ryūzō SUZUKI, Masao FUKUSHIMA, Isamu ISHII						
Structural Dynamics	Masao FUKUSHIMA, Isamu ISHII	8	Material and Construction			5		
Material Construction	Tachū NAITŌ, Sei KAWAI							

1929 / Original edition/ <i>Waseda Architectural Lecture Notes</i>		1929 / Department of Architecture at Waseda University		
Classification	Title	Instructors	Classification	Total
Equipment and Construction	Reinforced Concrete Construction	Akira UENAMI	Equipment	7
	Earthquake Resisting Construction	Tachū NAITŌ		
	Industrial Mathematics	Ichirō ŌSAWA		
	Japanese Home Tectonics	Masaharu FURUTSUKA		
	General Architecture Structural Methods	Yō TOKUNAGA		
	Contract Plan and Equipment	Ryozo BABA		
	Lamp Illumination	Noriyuki KADOKURA		
	Architecture Electrical Code	Shigeya ICHIKAWA		
	Mechanical Equipment/Equipment for Building	Ichirō ŌSAWA		
	Sanitation Equipment	Ichirō ŌSAWA		
Drawing	Heating and cooling equipment	Tokimasa DOI	Construction	5
	Ventilation equipment	Shōgo SAKURAI		
	Drafting Method	Kōchirō KIMURA, Saburō SOSHIRODA		
	Perspective Drawing and The Shadow Method	Wajirō KON		
	Architectural drawing	Editor		
	Surveying	Shikasaburō FUJII		
	Specification	Buichi KIMURA		
	Integration	Yuichi INO		
	Regulations and Application	Takeshihiko MATSUMOTO		
	Residential Building	Setsurō YAMAMOTO		
Implementation Plan	Apartment House	Yoshitaro TAKFUCHI	Drawing	7
	Museum	Kenji IMAI		
	Library	Kenji IMAI		
	School	Tarō MINAMINE		
	Shrines and Temples	Kōnosuke SASAKI		
	Church	Mamoru NAKAMURA		
	Regulations and Application	Takeshihiko MATSUMOTO		
	Residential Building	Kōichi SATŌ		
	Regulations and Application	Kenji IMAI		
	Residential Building	Kōichi SATŌ		
Architecture Plan	Steel Frame Construction	Tachū NAITŌ	Equipment	5
	Architecture and Exercises	Tachū NAITŌ		
	Architecture Structural Methods	Yō TOKUNAGA		
	Water supply and drainage			
	Mechanical Engineering Overview			
	Warming Room			
	Measurement			
	Project implementation and planning method			
	Decoration method	Shin'ichiro OKADA		
	Perspective and Rules	Wajirō KON		
Architecture Plan	Architecture Drawing	Wajirō KON	Implementation	7
	Self-Painting	Kenji IMAI		
	Sample diagram	Kōichi SATŌ		
	Sculpture	Hrosaburo TAKESHI		
	Regulations and Application			
	Residential Building	Kōichi SATŌ		
	Regulations and Application			
	Residential Building	Kōichi SATŌ		
	Architecture Design	Shin'ichiro OKADA		
	Architecture Design			
Architecture Plan	Regulations and Application		Regulations	19
	Residential Building			
	Regulations and Application			
	Residential Building			
	Regulations and Application			
	Residential Building			
	Regulations and Application			
	Residential Building			
	Regulations and Application			
	Residential Building			

1929 / Original edition/ <i>Waseda Architectural Lecture Notes</i>		1929 / Department of Architecture at Waseda University					
Classification	Title	Instructors	Total	Classification	Title	Instructors	Total
Special Lecture (Appendix)	Memorial building	Kenji IMAI, Yasushi TANABE	7	Others	Landscape Architecture Acoustics Urban Planning Industrial Economy Workplace Management Act Foreign Language	Kenji IMAI Kyôji YOSHIDA	6
	Store	Kyôji YOSHIDA, Saburô SOSHIRODA					
	The Department Store	Takeo SATO					
	Bank	Takeo YASUJI					
	Factory Building	Tachû NAITO					
	Warehouse	Katsunari KITAMURA					
	Office Building	Yoshikiyo SATO					
	Hospital Building	Gennosuke ÔSAWA					
	Theatre and Cinema	Takeo SATO,					
	Clubs	Katsumi NAKAYAMA					
	Hotel and Restaurant	Takeo YASUJI					
	Automobile Garage	Kyôji YOSHIDA					
	Architectural durability	Mi NIWA					
	Urban Planning	Kyôji YOSHIDA, Gisaburo SHIRATORI					
	Architectural Acoustics	Takeo SATO					
	Sun Light and Lighting	Kôichirô KIMURA					
	Garden	Takuma TONO					
Economic Problems of Building	Tôgo MURANO						
Tearoom	Kôichirô KIMURA						

The one immediately following is a comparison for 1942 (Shōwa 17th), as shown in the table 4.6.

Table 4.6 Comparison about subjects in 1942 (Shōwa 17th).

1942/ Last edition/ <i>Waseda Architectural Lecture Notes</i>		1942/ Department of Architecture at Waseda University					
Classification	Title	Instructors/Professors	Total	Classification	Title	Instructors/Professors	Total
Overview and History	Architecture Outline	Kōichi SATŌ	4	History	Craft Art History	Tari MORIGUCHI	4
	Japanese Architectural History	Yasushi TANABE			Japanese Architectural History	Yasushi TANABE	
	Orient Architectural History Outline	Chūta ITŌ			Orient Architectural History Outline	Chūta ITŌ	
	Western Countries Architectural History	Yasushi TANABE			Western Countries Architectural History	Kōichi SATŌ	
Material and Construction	Construction Materials	Kyōji YOSHIDA Tsutomu SAKAI	10	Material and Construction	Building Construction Method	Saburō SOSHIRODA	10
	General Architecture Methods	Saburō SOSHIRODA			Architecture and Construction (Mechanics)	Isamu ISHII	
	Structural Dynamics	Akira TSURUTA Isamu ISHII Shoji GOTŌ Kazuo MINAMI			Architecture and Construction (Iron Reinforcement)	Tachū NAITŌ	
	Earthquake Resisting Construction	Kazuo MINAMI			Architecture and Construction (Iron Bone)	Tachū Naitō	
	Wooden Structure	Rokurō ASANO			Architecture (Special Topics)	Tachū NAITO	
	Reinforced Concrete Construction	Akira UENAMI			Vibration-resistant construction	Tachū NAITŌ	
	Steel Frame Construction	Tachū NAITO			B Structure Exercise	Tachū NAITŌ	
	Electric Welding	Ryūzō SUZUKI Tsuruda AKIRA			Seismology		
	Japanese House Construction	Masaharu FURUTSUKA			Construction Materials and Practical Views	Kyōji YOSHIDA	
	Manchuria Architecture	Tsutomu HIDEHIMA			Material Strength and Mechanics	Murada	

1942/ Last edition/ <i>Waseda Architectural Lecture Notes</i>			1942/ Department of Architecture at Waseda University		
Classification	Title	Instructors/Professors	Classification	Title	Instructors/Professors
					Total
	Physical Education Facility	Kōichi SUGIURA			
	Drilling Building	Asahi KAGAWA			
	Hospital Building	Gennosuke ŌSAWA			
	Store	Kyōji YOSHIDA			
	Warehouse	Tokiji CHŪZENJI			
	Bank	Katsunari KITAMURA			
	Airport	Takeo YASUI			
	Air Defense Facility	Fuminaga KIYOTA			
		Kosuke HISHIDA			
		Ken'ichi USUI			
		Kōichirō KIMURA			
	Sun Light and Lighting	Motoo TAKE		Industrial Mathematics	
	Western Countries Garden	Takuma TONO		Industrial Economy	
Special Lecture	Architectural Acoustics	Akira MIKI	Others	Workplace Management Act	6
	Architectural Vibration	Shunzo CHIAKI		Chemical Industry	
	Japanese-Style Garden	Sadao KAWASHIMA		Mining Co-Study	Yo TOKUNAGA
	Tearoom	Matsunosuke TAISUI		Foreign Language	
		Masao ISOBE			

From the above two tables, we can see that there is some similarity between the *Waseda Architectural Lecture Notes* and the Department of Architecture at Waseda University in terms of both subject allocation and faculty strength. With regard to an examination of the degree of similarity, the following bar chart visually represents the distribution of subject allocation between the two in 1929 (Shōwa 4th) and 1942 (Shōwa 17th).

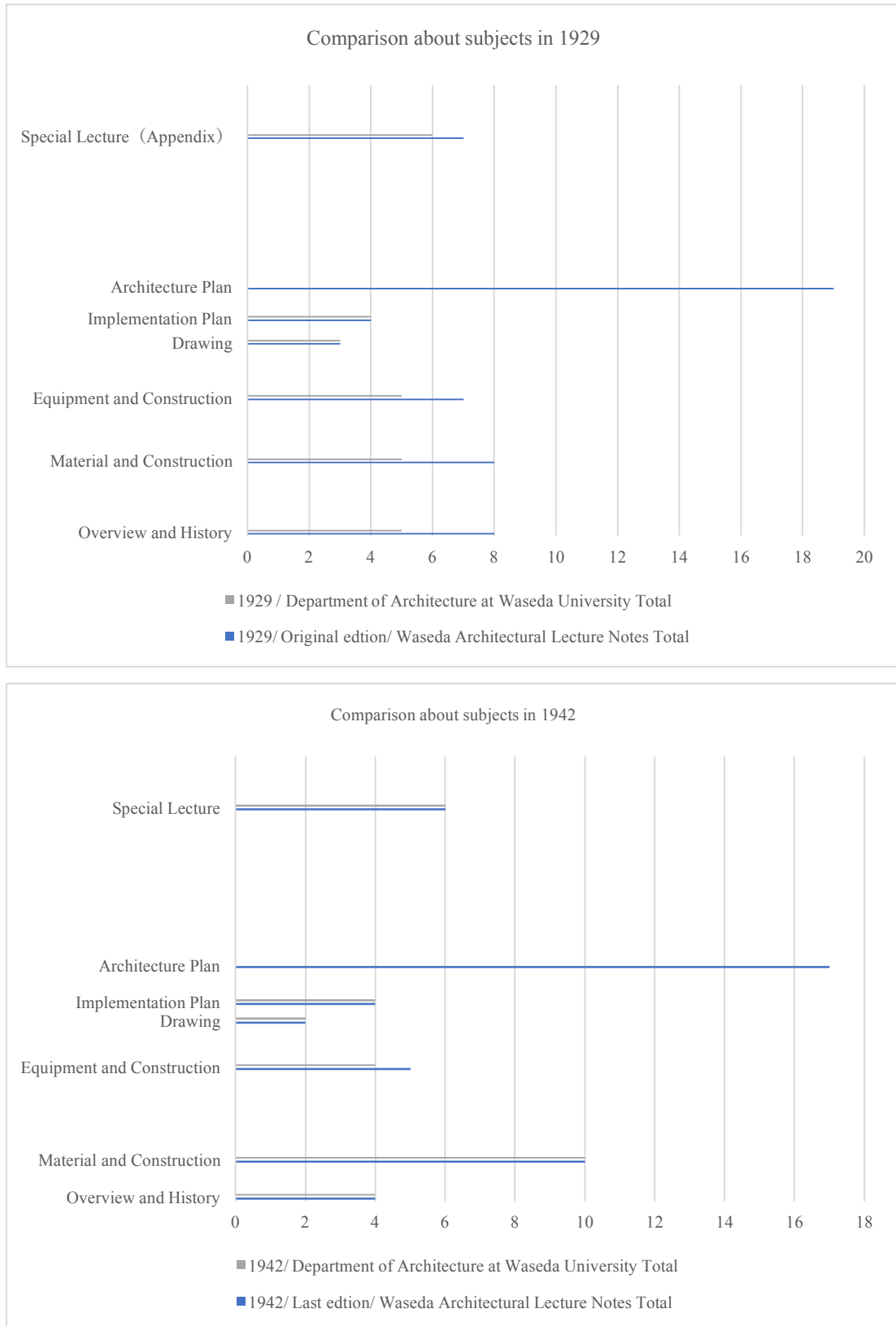


Figure 4.3 The distribution of subject allocation between the *Waseda Architectural Lecture Notes* and the Department of Architecture in 1929 and 1942.

At this point we can conclude that the two educational institutions maintain a high degree of consistency in their subject configurations, with six main categories of Architecture Plan, Overview and History, Material and Construction, Equipment and Construction, Implementation Plan, Drawing.

In the broad category of architectural design, the discipline of architecture is not well documented and is only generally categorized as architectural design. So, the Japanese architectural field has not been able to figure out the teaching of architectural design at Waseda University in the early Shōwa Period. It is possible to reverse this by inferring the consistency of the disciplinary configuration of the two educational institutions (the Department of Architecture and the *Waseda Architectural Lecture Notes*) and to know precisely what was taught in the architectural discipline at the time under the category of architectural design.

There are no textbooks left in the Department of Architecture, but there are notes given by Prof. Seiroku ŌTA in the KOIWA Laboratory of Architectural History at Waseda University, which consist of class notes on the history of Japanese architecture taught by Prof. Chūta ITŌ during his studies in the Department of Architecture at Waseda University.

The specific comparisons are as follows.

The history of Japanese architecture is presented in chronological order, from the primitive period to the period of learning Western technology. The history starts with a description of the characteristics of each period, followed by examples of typical buildings of the period, and ending with a summary of the architectural features of the period. So, even if you do not fully grasp the whole book, you can search the chapters of a specific period and quickly grasp the content of the history of architecture of a specific period.

Through Prof. ŌTA's notes at the beginning of the course, the comprehensive history of Japanese architecture is summarized and staged into three periods, the Southern Ocean, Continental and World. The focus is on the period before and after the introduction of Buddhism as an entry point for the division, which is somewhat specialized and exciting. It is worth noting, however, that ŌTA's notes are personally subjective, incomplete, and suffer from the inability to connect the preceding and following periods and have some historical significance but do not serve as a complete set of material for study.

However, the *Waseda Architectural Lecture Notes* on the history of Japanese architecture follow the exact chronological order, from the primitive period to the period of learning Western technology. Each period is first described by stating the characteristics of the period, followed by examples of typical buildings of the period, and finally by summarizing the architectural features of the period.

As a result of the comparison with the Department of Architecture at Waseda University, it was concluded that the educational policy, content and subject structure of the *Waseda Architectural Lecture Notes* are extremely similar to those of the Department of Architecture at Waseda University. The *Waseda Architectural Lecture Notes* provide a systematic chronological account of the content of the architectural discipline, making them the only medium available to date that recaptures the approach and aims of architectural education at Waseda University. It spans the period from primitive times to the introduction of Western technology, making it a highly systematic general history. It is also a vital addition to the study of Japanese architectural history.

4.4 Conclusion

In summary, architectural education at Waseda University in the Shōwa Period was a combination of three educational systems. On the one hand, the Department of Architecture was responsible for the traditional academic education at the upper level of society, and on the other hand, there were three industrial education systems, the Waseda Technical School, the Waseda Higher Technical School and the Correspondence Education, which were used to expand the scope of education and support the lower industrial level, making it a solid education system.

This chapter begins with an examination and analysis of the specific content of the four sets of the *Waseda Architectural Lecture Notes* and the educational backgrounds of the teachers who wrote them, the subject ratios, and an in-depth comparison of the teaching configurations of the *Waseda Architectural Lecture Notes* with those of the other two architectural education institutions within Waseda University.

First of all, by analyzing the educational backgrounds of the teachers, we learned that Waseda University's teachers at that time were mainly graduates of the University of Tokyo and Waseda University, and only a few of them had overseas study experience. This implies that the architectural education conducted at Waseda University during the Shōwa Period was based on traditional Japanese education. In the classification of the notes, it can be learned that the course of tectonics occupied the most significant proportion of the whole messages, followed by architectural design and construction equipment, and the history of architecture was only covered in 1942 (Shōwa 17th), accounting for the minor proportion. The new subjects from 1940 (Shōwa 15th) to 1942 (Shōwa 17th) were wood construction and Manchurian architecture, which were related to the tightening of the regulations on the use of reinforced concrete and munitions in Japan, which led to the trend of saving reinforced concrete and steel in construction, and thus to the promotion of wood construction. Waseda University has also kept up with the national requirements in terms of teaching and proposing adaptive subjects.

It is concluded the content and subject ratios between the *Waseda Architectural Lecture Notes* and the Department of Architecture are highly consistent with those of architectural disciplines. In view of the fact that the scattered materials of this period do not allow for the restoration of the original educational landscape, the catalogue can be used as a series of general history books to restore the reality of architectural education at the time. It is also possible to build on the gaps in the current study of Japanese architectural history.

From research of the founding of the Department of Architecture, its professors, and the subjects taught at the time of its establishment, it is clear that the Department of Architecture was initially structured in a gradual three-step educational program in

order to fully realize the training of construction technicians for the nation and society. The first step was devoted to basic knowledge, the second step was dedicated to advanced skills in surveying and drafting for field research, and the third step was dedicated to the teaching of regulations, equipment, and drainage needed for actual construction sites.

References

In sequential order

- WASEDA UNIVERSITY. 1929. *Waseda University Architecture Lecture Notes Shōwa 4th -Suzuki Collection*. Tokyo: WASEDA UNIVERSITY PRESS.
- WASEDA UNIVERSITY. 1932. *Waseda University Architecture Lecture Notes Shōwa 7th - No Cover*. Tokyo: WASEDA UNIVERSITY PRESS.
- WASEDA UNIVERSITY. 1940. *Waseda University Architecture Lecture Notes Shōwa 15th*. Tokyo: WASEDA UNIVERSITY PRESS.
- WASEDA UNIVERSITY. 1942. *Waseda University Architecture Lecture Notes Shōwa 17th*. Tokyo: WASEDA UNIVERSITY PRESS.
- ARCHITECTURAL INSTITUTE OF JAPAN. 1939. *Architectural yearbook in Shōwa 14th*. Tokyo: MARUZEN PUBLISHING.
- Hanyang WANG and Masaki KOIWA. 2021. “A Historical Perspective of Architecture Education at Waseda University in Japan: Analyses of the Waseda Architecture Lecture Notes for Correspondence Education in the early Shōwa Period”. *Journal of Asian Architecture and Building Engineering*.
<https://doi.org/10.1080/13467581.2021.1903904>
- WASEDA UNIVERSITY ALUMNI ASSOCIATION. 1911. “Waseda University Report Issue” *Waseda Gakuho*.
- WASEDA UNIVERSITY ALUMNI ASSOCIATION. 1912. “Waseda University Report” *Waseda Gakuho*.
- WASEDA UNIVERSITY ALUMNI ASSOCIATION. 1921. “Waseda University Report” *Waseda Gakuho*.
- THE WASEDA TECHNICAL SCHOOL. 1913. *Essentials of the Waseda Technical School*. Tokyo: THE WASEDA TECHNICAL SCHOOL.
- Seiroku ŌTA. 1933. “Notes by Seiroku ŌTA: The History of Japanese Architecture by Chūta ITŌ”

Chapter 5

The Influence and the Position of the Waseda Architecture Correspondence Education in Society

- 5.1 The Industrial School System in the Early Shōwa Period
- 5.2 Proposal for A Standard Textbook for Industrial School Levels
- 5.3 Changes in Architectural Books and Lecture Notes from the Meiji Period to the Shōwa Period
- 5.4 External Comparison: Architectural Book Written and Distributed by the Same Lecturer at Waseda University
- 5.5 The Influence of the *Waseda Architectural Lecture Notes* in society
- 5.6 Conclusion

5.1 The Industrial School System in the Early Shōwa Period

Since the spread of technology was interpreted to be generalized in the Industrial Notification, and the education sought by the industrial world was “*industrial education*”, the first part of this chapter will examine the flow of “industrial education” in Japan. The development of capitalism in Japan and the importation of Western academic and educational systems have led to the gradual improvement and development of the industrial education⁷⁷ system in the form of school education. Modern education in Japan began as a school system with the “*Gakusei*”⁷⁸ promulgated in August 1872 (Meiji 5th) since the Meiji Restoration. The importance of industrial education is elaborately described at the beginning of the “*Fifty Years of Industrial Education*”. As a quotation, the social mission required for industrial education becomes clear from the following.

“*Preface*”⁷⁹

Japan’s educational system began with the School System, which was distributed in 1872 (Meiji 5th). The school system took its model from the West Countries and was intended to establish an education system on a grand scale. However, at the time of the establishment of the Restoration, the general government was not in order, and the national power was not strong, so there were many difficulties in implementing the system, and it could not be carried out smoothly. Particularly with regard to industrial education, the two additional editions of the school system merely provided definitions of schools and did not provide any legal standards. I believe that the only law that can be regarded as a law for practical industrial education in Japan is the General Rules for Agricultural Schools issued in 1883 (Meiji 16th). As this year corresponds to the 50th anniversary of the promulgation of these regulations, we will hold a commemorative meeting in mid-autumn to celebrate the 50th anniversary of business education, and as one of the activities, we have compiled this book for your review. Even though fifty years have not been long, there are now fifty-two industrial schools, thirteen industrial schools, and fifteen thousand eight hundred and twenty-two industrial training schools, and the total cost has risen to five thousand seven hundred and seventy-seven thousand eight hundred and thirty-five yen (as of 1931). Since the inception of business education, we have trained more than 700,000 people and contributed to the development of the Japanese nation. When we look at the process of the development of industrial education in our country, it is blessed to see it as a history of hardship. After 300 years

⁷⁷ 実業教育：It is a general term used to describe education for those who are engaged in various industries. This phrase was used mainly before World War II and corresponds to the current industrial education. Before World War II, schools that provided industrial education included industrial training schools, apprentice schools, industrial schools, and industrial industrial schools.

⁷⁸ 学制：Gakusei.

⁷⁹ Ministry of Education, Science and Culture. 1934. *Fifty Years of Industrial Education*. Tokyo: The 50th anniversary of industrial education.

of national seclusion, our country was now on the international stage, and we had to concentrate on improving the education of the general populace and calling for national leaders. We have not yet been able to cultivate the industrialists who are needed to enhance our national power. This situation became a tradition of Meiji education for a long time and led to the development of the history of hardships in industrial education. In the meantime, Kowashi INOUE⁸⁰ and many other forerunners have recognized the importance of industrial education for a long time and have been making plans and management behind the scenes to spread and develop it. Today the prosperity of industrial education must be attributed to the efforts of these forerunners. The reason why I have compiled this book to commemorate the 50th anniversary of the founding of our country is to remember the struggles of those who came before us, to renew our enthusiasm, and to strengthen our resolve for the future and to contribute to the development of our country.

*October 1934 (Shōwa 9th)
Toyosaburo KIKUCHI⁸¹ ”*

KIKUCHI briefly summarized the development of the Japanese education system from the Meiji Period onwards, and this book also points out the fact that in the early Shōwa period, the Ministry of Education, Science and Culture was desperate to achieve a national level of higher education and to expand higher education institutions at a rapid pace. In February of Taishō 8th, the government proposed the “Act on the Expansion of Higher Education Institutions” (高等教育校の擴張案).

“Sequel Preface”⁸²

In October 1934 (Shōwa 9th), corresponding to the 50th anniversary of the founding of the industrial education system in Japan, we held a meeting to commemorate the 50th anniversary of industrial education, and compiled a fifty-year history of industrial education as one of its projects. With the enthusiasm of the Commemorative Association for the 50th Anniversary of Industrial Education, we have published this sequel, and we are pleased to have completed the 50 years history of industrial education by laying out the details of the Taishō and Shōwa Periods, and adding various sections on night industrial schools, industrial education in colonies, and multiple schools similar to industrial schools.

⁸⁰ Kowashi INOUE (井上 毅) was a Japanese statesman in Meiji Period Japan.

⁸¹ Toyosaburo KIKUCHI (菊池豊三郎). Bureau Director, Industrial School Affairs Bureau, Ministry of Education, Culture, Sports, Science and Technology

⁸² Ministry of education, science and culture. 1934. *Fifty Years of Industrial Education*. Tokyo: The 50th anniversary of industrial education.

Japan's industry took shape in the Taishō Period (1912-1926) and made a great leap forward in the Shōwa Period (1926-1989), and the future of Japan's industry is poised to become a global threat. In response to the situation of Japanese industry, industrial education also expanded its scale in the Taishō and Shōwa Periods and took on a depressing posture. However, nowadays, the situation inside and outside the country is undergoing drastic changes, and Japanese industry is making great strides and completely changing its face"

As we can see from the above quotations, the development of education in Japan cannot be separated from the development of the school system, and therefore the study of the history of education requires a study of the development of the school systems.

In the third chapter, "The Flow of Secondary Industrial Education" of his doctoral dissertation "*A Study on the Establishment of Middle-Level Education on Architecture in Japan: Through the Activities by the Ministry of Education and Architectural Institute of Japan, the Later Taishō-era and the Early Shōwa Period*", he examined in detail the changes in the school system and industrial education. He pointed out that the actual implementation of industrial education relied heavily on the issuance of textbooks.

The following three definitions are relevant to this chapter.

① Industrial Education.

It is a general term used to describe education for those who are engaged in various industries. This phrase was used mainly before World War II and corresponded to the current industrial education. Before World War II, schools that provided industrial education included industrial training schools, apprentice schools, industrial schools, and industrial schools.

② Gakusei.

The first fundamental law concerning the modern school system in Japan. It was promulgated in 1872 (Meiji 5th), and was later revised and added to, and became the basis for the establishment and development of modern schools in Japan.

③ Textbooks.

"Textbooks" themselves are used in school education, but these kinds of books have also been published for independent study; there were also books that covered architectural education. In the next section, we will clarify the purpose of such books and how the idea of disseminating architectural knowledge has developed and captured what was essential as a textbook.

The architecture related schools at the time were subdivided into the following four categories: Universities, Vocational Schools, Industrial Schools (A, B) and Various Schools (A, B). The functions of these four types and the number of graduates are described below.

Universities:

According to the detailed research in Chapter 2, there was only one school, the University of Tokyo, in the Meiji Period. Then, as a result of “Act on the Expansion of Higher Education Institutions”, the “University Edict” was promulgated in Taishō 9th, and Vocational schools which had been based on the “Vocational School Edict” were legally recognized as universities, and ten schools were approved as universities in Taishō 9th. As universities were the highest rank in the school system, students were required to have graduated from a high school or a preparatory course for university. Students were required to have graduated from a high school or a university preparatory course since universities were the highest rank in the school system. According to the statistics of the Architectural Institute of Japan from Shōwa 11th to Shōwa 16th, Waseda University had the highest number of graduates of any university at that time, however, the highest number was only about 1,002 (in Shōwa 15th).

Vocational Schools:

The 10 schools mentioned above were architecture-related schools at the time and were named higher technical schools since the aim was to train construction technicians for the Architectural Industry. For example, in Shōwa 12th, there were 2,385 university graduates and 2,706 higher technical schools’ graduates. The professors at these ten schools were discussed detailed in Chapter 2. These professors who graduated from higher universities at the time were maintained a higher teaching and education’s standard, and the number of graduates from universities and higher technical schools, although slightly different, did not change significantly. The overall numbers were not large for both these two types; thus, it is assumed that face-to-face teaching was maintained at the time and there was no need of standard textbooks for the higher technical schools.

Industrial Schools (A, B):

The “Industrial School Edict” in 1899 listed five types of schools for industry⁸³, agriculture, commerce, merchant marine, and practical training. These schools were first divided into Type A and Type B schools, and then, in 1920, with the revision of the “Industrial School Edict”, the distinction between Type A and Type B schools was abolished, and industrial schools with a five-year course of study were allowed. The industrial schools were abolished with the enforcement of the “Secondary School Edict” in 1943.

⁸³ Schools related to architecture were named as industrial school.

Since the A and B type were merged in the period discussed in this thesis, the statistics were combined when counting graduates. The number of such graduates was huge, reaching as many as 24,539 in Shōwa 12th, which could be said to have supported the actual construction work on the building site at that time. The higher education promotion program at that time was more inclined to the expansion of education in this type of school, and it can be assumed that textbooks were indispensable since the large number of graduates.

Various Schools (A, B) :

Various schools are defined in the “Education Edict” in 1879 as “*Schools shall be elementary schools, junior high schools, colleges, normal schools, vocational schools, and other schools of various kinds*”, and include various educational facilities such as Japanese and Western dressmaking, arithmetic, automobile maintenance, cooking and nutrition, nursing, public health, English Conversation, and Industry. Various types of schools were established with the approval of the prefectural governor if they met certain standards (e.g., regulations for various types of schools), such as the number of class hours, number of teachers, facilities and equipment.⁸⁴

It could be inferred that the various schools related to architecture at that time had higher autonomy to establish various schools as they met the above requirements, also the entrance requirements and graduation requirements were decided independently by universities or other groups. In other words, due to the higher autonomy that existed at each university or group, there were no uniform criteria for evaluating the various schools. Both Waseda University and Nihon University had their respective counterparts of various schools. According to the Architectural Institute of Japan’s *Architectural Yearbook of Shōwa 12th*, the Waseda Higher Technical School mentioned in Chapter 2 belonged to the Various Schools A, and the Waseda Technical School belonged to the Various Schools B.

Table 5.1 below shows the list of architecture-related schools from Shōwa 12th to Shōwa 16th according to the statistics of *Architectural yearbook (Shōwa 13th - Shōwa 17th)* published by Architectural Institute of Japan.

⁸⁴ The ministry of Education, Science and Culture : *100-year history of the school system*.

Table 5.1 Types of architecture schools and statistics of graduates between Shōwa 12th and S Shōwa 16th⁸⁵.

学校名	分類と卒業生									
	昭和 12 年		昭和 13 年		昭和 14 年		昭和 15 年		昭和 16 年	
東京帝國大学(工学部)		643		76		750		841		830
京都帝國大学(工学部)		193		218		232		247		264
東京工業大学	大学	704	大学	704	大学	971	大学	595 ^{*3}	大学	991
早稲田大学(理工学部)		726		924		967		1002		1030
日本大学(工学部)		219		257		268		371		428
哈爾濱工業大学						*2		12		27
新京工礦技術院				*2	8	22				
名古屋高等工業学校	専門学校	657	専門学校	692	専門学校	781	専門学校	828	専門学校	852
横濱高等工業学校		300		342		387		383		507
仙臺高等工業学校		154		189		228		255		331
神戸高等工業学校		356		356		127		510		604
福井高等工業学校		346		397		430		464		496
京城高等工業学校		154		180		188		208		232
南滿洲工業専門学校		151		174		187		199		223
日本大学専門部工科		482		565		637		691		769
東京美術学校		96		103		102		115		123
京都高等工藝学校 (圖案科)		*2		*2		*2		1000		*2
東京高等工藝学校 (木材工藝科)		*2		*2		*2		*2		*2
早稲田大学専門部 (工科) *1								*2		170
関西(攝南)高等工業学校										*2
武蔵高等工業学校										350
立命館大学専門学部					64					
熊本高等工業学校					*2					
廳(道)立札幌工業学校	実業学校 (甲種)	169	実業学校 (甲種)	182	実業学校 (甲種)	209	実業学校 (甲種)	237	実業学校 (甲種)	259
廳(道)立函館工業学校		247		270		270		339		366
廳(道)立苫小牧工業学校		162		175		191		226		245
縣立弘前工業学校		473		488		513		534		*2
市立青森工業学校		100		100		114		*2		169
縣立岩手工業学校		672		678		*2				699
市立仙臺工業学校		506		560		595		627		666
縣立秋田工業学校		206		294		311		324		553
縣立能代工業学校		70		101		95		130		135
縣立米澤工業学校		501		517		617		586		738
縣立鶴岡工業学校		224		266		269		292		315
縣立宇都宮工業学校		230		258		265		290		333
縣立前橋工業学校		83		93		107		125		156

⁸⁵ Based on the *Architectural yearbook (Shōwa 13th - Shōwa 17th)* published by Architectural Institute of Japan.

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

学校名	分類と卒業生				
	昭和12年	昭和13年	昭和14年	昭和15年	昭和16年
府立實科工業学校	353	343	401	463	427
安田工業学校	221	*2	393	727	400
法政大学工業学校	546	538	565	668	473
市立小石川工業学校	329		384	408	434
日本大学工業学校	124	143	163		500
神奈川県立工業学校	337	371	404	418	455
市立富山工業学校	264	396	412	472	*2
金澤市立工業学校	63	81	81		160
市立甲府工業学校	253	286	286	290	330
縣立長野工業学校	117	129	158	144	159
岐阜縣立第二工業学校	114	138	153	173	205
縣立濱松工業学校	218	260	287	339	365
名古屋工業学校	241	142	114		*2
名古屋市立工藝学校	89	*2	148		439
津市立工業学校	383	410	449	437	469
縣立彦根工業学校	*2	*2	*2	27	53
京都市立第一工業学校	266	297	327	396	426
市立都島工業学校	774	814	945	1018	1092
市立都島第二工業学校	25	62	83	129	143
府立西野田職工学校	446	411	532	574	*2
府立今宮職工学校(晝)	425	448	465	499	543
府立今宮職工学校(夜)	386	501	137	19 ^{*3}	580
關西工業学校	12	55	55	423	155
兵庫縣立工業学校	663	741	776	834	844
縣立吉野工業学校	398	423	108	364	384
和歌山縣立工業学校	382	450	476	499	532
島根縣立工業学校修道館	408	433	521	543	610
縣立廣島工業学校	1026	1082	1131	1187	1270
縣立廿日市工業学校	189	223	259	326	356
德島縣立工業学校	617	755	787	812	
香川縣立工藝学校	270	310	410	381	
縣立松山工業学校	380	474	502	no	524
縣立高知工業学校	73	100	118	520	537
縣立福岡工業学校	654	673	682	730	no
縣立浮羽工業学校	509	702	705	711	743
熊本縣立工業学校	640	771	795	836	861
縣立大分工業学校	356	33*3	357	388	419
縣立鶴崎工業学校	323	357	412	444	474
縣立宮崎工業学校	300	349	294	655	667
縣立鹿兒島工業学校	389	443	422	501	157
縣立加治木工業学校	471	576	618	565	669
鹿兒島實業学校	197	209	224	258	551

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

学校名	分類と卒業生									
	昭和12年		昭和13年		昭和14年		昭和15年		昭和16年	
縣立薩南工業学校		659		696		610		768		826
沖繩縣立工業学校		215		236		272		256		281
京城工業学校		247		296		311		346		367
臺北州立臺北工業学校		281		272		385		356		334
大連工業学校		*2		*2		*2		36		54
縣立田川商工学校				*2		*2		*2		16
縣立盛岡工業学校						616		634		699
縣立静岡工業学校								*2		*2
愛知縣立工業学校								181		*2
愛知縣機械工業学校								*2		*2
縣立江津工業学校								120		*2
廣島市工業学校								195		*2
縣立長崎学校								*2		*2
都城實業学校								*2		*2
臺中州立臺中工業学校										*2
東京高等工藝附屬 工藝專修学校								*2		540
城南工業学校										*2
縣立川崎工業学校										*2
上田市立商工学校										*2
名古屋工業学校										*2
名古屋市立工業学校										439
府立堺實業学校										*2
縣立廣島第二工業学校										216
縣立佐世保工業学校										*2
縣立日田林工学校										47
竹田商工学校										*2
町田岩川工業学校										*2
開南工業学校										43
名古屋市立工業專修学校		402		426		417		433		*2
京都市立第二工業学校		63		86		104		*6		*4
縣立江津工藝学校		38		80		65		120		*4
廣島市工業学校 (元市立工業專修青年校)	実業 学校 (乙 種)	118	実業 学校 (乙 種)	155	実業 学校 (乙 種)	174	実業 学校 (乙 種)	195	実業 学校 (乙 種)	*4
大牟田工藝学校		191		350		450		300		450
熊本市立商工学校		196		214		258		*2		*2
東京府立實科工業学校 (第三本科・選科)		4256		4256 ^{*3}		8 ^{*3}		*4		*4
函館市立工業学校								30		19
名古屋市立古渡實業学校								80		*2

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

学校名	分類と卒業生									
	昭和 12 年		昭和 13 年		昭和 14 年		昭和 15 年		昭和 16 年	
縣立薩南工業学校		659		696		610		768		826
沖繩縣立工業学校		215		236		272		256		281
京城工業学校		247		296		311		346		367
臺北州立臺北工業学校		281		272		385		356		334
大連工業学校		*2		*2		*2		36		54
縣立田川商工学校				*2		*2		*2		16
縣立盛岡工業学校						616		634		699
縣立静岡工業学校								*2		*2
愛知縣立工業学校								181		*2
愛知縣機械工業学校								*2		*2
縣立江津工業学校								120		*2
廣島市工業学校								195		*2
縣立長崎学校								*2		*2
都城實業学校								*2		*2
臺中州立臺中工業学校										*2
東京高等工藝附屬 工藝專修学校								*2		540
城南工業学校										*2
縣立川崎工業学校										*2
上田市立商工学校										*2
名古屋工業学校										*2
名古屋市立工業学校										439
府立堺實業学校										*2
縣立廣島第二工業学校										216
縣立佐世保工業学校										*2
縣立日田林工学校										47
竹田商工学校										*2
町田岩川工業学校										*2
開南工業学校										43
名古屋市立工業專修学校		402		426		417		433		*2
京都市立第二工業学校		63		86		104		*6		*4
縣立江津工藝学校		38		80		65		120		*4
廣島市工業学校 (元市立工業專修青年校)	実業 学校 (乙 種)	118	実業 学校 (乙 種)	155	実業 学校 (乙 種)	174	実業 学校 (乙 種)	195	実業 学校 (乙 種)	*4
大牟田工藝学校		191		350		450		300		450
熊本市立商工学校		196		214		258		*2		*2
東京府立實科工業学校 (第三本科・選科)		4256		4256 ^{*3}		8 ^{*3}		*4		*4
函館市立工業学校								30		19
名古屋市立古渡實業学校								80		*2

5.2 Proposal for A Standard Textbook for Industrial School Levels

Based on the expansion of industrial education during the Taishō Shōwa Period discussed above, the Ministry of Education, Science and Culture began discussing standard textbooks for industrial education in Taishō 11th and the Architectural Institute of Japan began discussing standard textbooks for industrial education in Taishō 15th in order to promote industrial education on a broader scale. This section focused on the *Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*⁸⁶ (「建築学会実業学校程度標準教科書編纂委員会」(Figure 5.1) since the standard textbooks of the Architectural Institute of Japan already contained references to the content of the Ministry of Education, Science and Culture, discussion and revision of terminology.

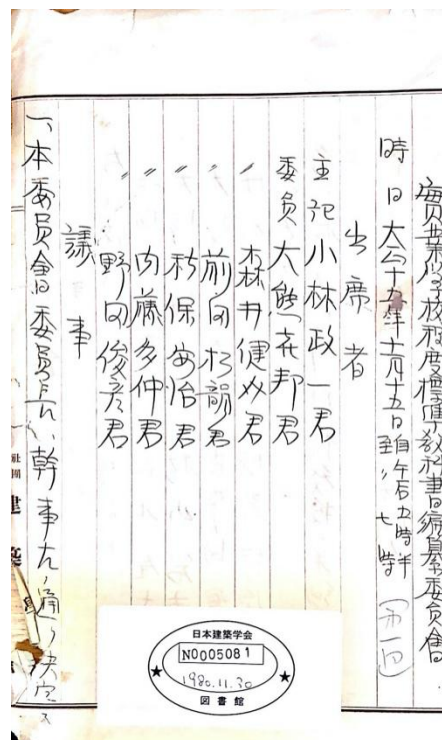


Figure 5.1 Report of the *Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*.

⁸⁶ 「建築学会実業学校程度標準教科書編纂委員会」: the *Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*

The committee was formed by a special resolution in November 1926, in order to realize a standard textbook at the level of business schools. Thereafter, after 15 meetings of investigation and research, the following table 5.2 was revised, taking into account the intentions of the Ministry of Education, Science and Culture.

Table 5.2 Guidance on the classification of standard textbooks for industrial schools published by the Architectural Institute of Japan (Ministry of Education, Science and Culture).

Structural Mechanics 構造力学	Architectural Mechanics, Mechanics of Materials, Applied Mechanics, Mechanics and Structural Theory, Structural Science, Architectural Structures, Architectural Structural Calculation Methods, Structural Calculation, Structural Strength, Material Strength, Material-Structural Strength 建築力学、材力学、応用力学、力学及構造理論、構造学、建築構造学、建築構造計算法、構造計算、構造強弱、材料強弱、材料構造強弱
Architectural Materials 建築材料	Architectural Materials, Materials Science, Materials Tools 建築用材料、材料学、材料工具
Architectural Construction 建築構造	House Construction, Structural Law, Architectural Construction Law, Japanese and Western Architectural Construction Law, Steel-Framed Reinforced Concrete Construction 家屋構造、構造法、建築構造法、和洋建築構造法、鉄骨鉄筋コンクリート造
Architectural Equipment 建築設備	Building Hygiene, House Hygiene Engineering, Hygiene Engineering, Hygienic Equipment, Heating and Ventilation, Mechanical Equipment, Water Supply and Drainage 建築衛生、建築衛生学、家屋衛生工学、衛生工学、衛生建築、衛生設備、暖房衛生設備、機械的設備、給水及排水
Construction Methods 施工法	Construction Planning, Building Construction, Building Construction Methods, Architectural Practice Act, Implementation of Works Act, Specification Estimation, Specification and Calculation Methods, Construction Equipment 施工計画、建築施工、建築施工法、建築実施法、工事実施法、仕様見積、仕様及び積算法、施工用機器
Architectural styles 建築様式	Architectural History, History 建築史、沿革史
Architectural planning 建築計画	Architectural Designs, Special Architectural Design, Design plans, Planning Methods, Architectural Designs, Architectural Planning Methods, Special Architecture, Various Architecture, Architectural Requirements, Design Requirements 建築意匠、特別建築意匠、意匠計画、計画法、建築設計、建築計画法、特殊建築、諸建築、建築要項、設計要項
Building Regulations 建築法規	Building Regulations, Related Laws, Building Administration (not mandatory) 建築諸法規、関係法規、建築行政

After confirming the architectural subjects in the above industrial schools, the committee appointed seven architectural scholars, as shown in Table 5.3, representing the highest level of architectural education at the time, to supervise the textbook details, of whom Tachū NAITŌ and Kyōji YOSHIDA were professors at Waseda University and were responsible for each of these two subjects- *Construction Mechanics* and *Architectural Materials*.

Table 5.3 Professors (Editors) of *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*.

Subjects title	Editors
Structural Dynamics 構造力学	Tachū NAITŌ 内藤多仲
Construction Materials 建築材料	Kyōji YOSHIDA 吉田享二
Architectural Construction 建築構造	Yoshikazu UCHIDA 内田祥三
Architectural equipment 建築設備	Jouji IKEDA 池田譲次
Construction Methods 施工法	Denji NAKAMURA 中村伝治
Architectural styles 建築様式	Sannosuke ŌSAWA 大澤三之助
Architectural planning 建築計画	Shōin MAEDA 前田松韻

As stated in the final report of the *Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools* published in the *Yearbook of the Architectural Institute of Japan*, after 15 meetings and discussions, it was finally decided that the Architectural Institute of Japan would not set the standards and specifications. At the same time, the unit producing the textbooks could be free. Please refer to the following citations for details.

“Finally, concerning the method of compiling textbooks, the Architectural Institute of Japan deliberated on various methods, such as compiling textbooks on its own, searching for authors, publishing and distributing them, quickly publishing these details, expecting the appearance of textbooks based on these details, and examining them.”⁸⁷ ”

The resolution contents were as follows: 1) to publish the standard teaching details of the Department of Architecture prepared by the Society, 2) to allow free production of textbooks, and 3) to deliberate on the verification of these textbooks in detail later. Table 5.3 shows the committee members and the finalized Standard Textbook curriculum guidelines.

⁸⁷日本建築学会. 1929. 「実業学校標準教科書草案」.

Therefore, the author compares the subject classifications in the *Waseda Architectural Lecture Notes* which had clarified in Chapter 3 with the classifications (courses) in the *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*⁸⁸, as follows:

Table 5.4 A comparison of subjects about the *Waseda Architectural Lecture Notes* and the *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*.

<i>Waseda Architectural Lecture Notes</i> 『早稲田建築講義録』	<i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」	
	Subject	Time Statistics (Hours)
Material and Construction 材料及び構造	Structural Dynamics 構造力学	105
	Construction Materials 建築材料	70
	Architectural Construction 建築構造	210
Architecture Plan 建築計画	Architecture Plan 建築計画	70
Overview and History 概論及び歴史	Architectural Styles 建築様式	70
Equipment 諸設備	Equipment 建築設備	70
Implementation Plan 実施計画	Construction Methods 施工法	70
Drawing 製図		
Special Lecture (Appendix) 特別講義		

The distribution of time given for the study guides in the teaching book in Table 5.4 showed that the highest proportion were occupied by the *Materials and Construction* category.

Following, the author investigates each of the corresponding categories in detail as shown from table 5.5 to table 5.13.

The first is the construction category, which accounted for the largest proportion, and could be specifically compared to the three subjects in table 5.5. The latter four cannot be compared since the absence of *Waseda Architectural Lecture Notes*. The next table 5.6, 5.7 and 5.8 (Part 1) presents a comparison of the specific content of *Structural Dynamics*, *Construction Materials* and *Architectural Construction* respectively.

⁸⁸ 「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」: the *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*

Table 5.5 A Comparison of Material and Construction for *Waseda Architectural Lecture Notes* and *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*.

<i>Waseda Architectural Lecture Notes</i> 【早稲田建築講義録】		<i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」
Material and Construction 材料及び構造	Structural Dynamics 構造力学	Structural Dynamics 構造力学
	Construction Materials 建築材料	Construction Materials 建築材料
	General Architecture Structural Methods 一般構造法	Architectural Construction 建築構造
	Steel Frame Construction 鉄骨構造	-
	Reinforced Concrete Construction 鉄筋コンクリート	-
	Earthquake Resisting Construction 耐震計算	-
	Industrial Mathematics 工業数学	-
	Japanese Home Tectonics 日本家屋構造	-

Table 5.6 A Specific Catalogue Comparison of *Structural Dynamics* for *Waseda Architectural Lecture Notes* and *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*.

<i>Waseda Architectural Lecture Notes Shōwa 4th</i> Material and Construction 材料及び構造 —Structural Dynamics 構造力学 (昭和4年)		<i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」-「構造力学」(昭和4年)	
Chapter 1: Power 第一章 力	1. General Description 1. 概説	Chapter 1: Hydrostatics 一 静力学	1. Power 1. 力
	2. Synthesis and Decomposition of Forces 2. 力の合成及分解		
	3. Imbalance of Forces 3. 力の不衡		
	4. The use of Force Diagram 4. 力の図式第法の應用		
	5. Imbalance of Forces in Structures 5. 架構物に於ける力の不衡		2. Equilibrium of forces in structures 2. 架構物に於ける力の平衡
	6. Properties of the Insulating Surface 6. 断面の性質		3. Properties of the insulating surface 3. 断面の性質
	7. Face Strength 7. 面力		

<i>Waseda Architectural Lecture Notes Shōwa 4th</i> Material and Construction 材料及び構造 —Structural Dynamics 構造力学 (昭和4年)		<i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授 細目案」-「構造力学」(昭和4年)	
Chapter 2: Materials Science 第二章 材料学	8. Stress and Strain 8. 応力及變形	Chapter 2: Material Strength 二 材料強弱	2. Change of shape 2. 變形
	9. Problems Relating to Stress 9. 応力に關する諸問題		1. Stress 1. 応力
	-		3. Strength of the material 3. 材料の強度
	10. Simple beam 10. 梁 (單梁)		1. Simple beam 1. 梁 (單梁) 2. Interlocking beams 2. 連梁
	11. Columns 11. 柱		3. Pillar 3. 柱
	12. Synthetic Stress 12. 合成應力		4. Composite and eccentric loads 4. 合成應力と偏心荷重
Chapter 3: Application to Building Structures 第三章 建築構 造物への應用	13. General 13. 總論	Chapter 4: Design of Structures 四 構造物の設計	1. External forces 1. 外力
	14. Tsugite 14. 繼手		2. Joints 2. 接合
	16. Floor 16. 床		3. Floors 3. 床
	15. Roof 15. 屋根		4. Hutments 4. 小屋組
Chapter 4: The Foundation 第四章 基礎	17. General Description 17. 概説	Chapter 4: Design of Structures 四 構造物の設計	6. Basics 6. 基礎
	18. Ground Bearing Capacity 18. 地耐力		
	19. Pile Bearing Capacity 19. 杭耐力		
	20. Single Foundation 20. 單獨基礎		
	21. United Foundation 21. 聯合基礎		
	22. Eccentric Foundations 22. 偏心基礎		
	23. Eccentric Load-Bearing Foundations 23. 偏心荷重を受ける基礎		
	24. Foundation Under Tension 24. 張力を受ける基礎		
25. Moat Pillars 25. 堀立柱	5. Column Design 5. 柱の設計		

<i>Waseda Architectural Lecture Notes Shōwa 4th</i> Material and Construction 材料及び構造 —Structural Dynamics 構造力学 (昭和4年)		<i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授 細目案」-「構造力学」(昭和4年)	
Chapter 5: Retaining Walls 第五章 擁壁	26. General Description 26. 總説		
	27. Water Pressure 27. 水壓		7. Water Tanks and Retaining Walls 7. 水槽と擁壁
	28. Earth Pressure 28. 土壓		
	29. Abrasive and Cohesive Forces of Soil 29. 土の磨擦力及凝聚力		
	30. Change of Breathing Angle Due to Earthquake 30. 地震による息角の變化		
	31. Excavation Theory 31. 土壓の理論		
	32. Wedge Theory 32. 土楔論		
	33. How to Solve the Hydraulic Pressure Problem Based on Soil Wedge Theory 33. 土楔論による土壓の図式解法		
	34. Rankine's Theory 34. ランキン氏の理論 (Rankine,s. Theory)		
	35. When the Back of the Retaining Wall is Inclined 35. 擁壁の背面が傾斜せる時		
	36. Equivalent Fluid Pressure 36. 等價流動體壓力		
	37. Design of Retaining Walls 37. 擁壁の設計		
	38. Design of Gravity and Semi-Gravity Retaining Walls 38. 重力式及半重力式擁壁の設計		
	39. Design of Retaining Wall Sections 39. 擁壁各部の設計		
Chapter 6: The Chimney 第六章 煙突	40. Size of the Chimney 40. 煙突の大きさ		
	41. Structure and Type 41. 構造及種類		

<i>Waseda Architectural Lecture Notes Shōwa 4th</i> Material and Construction 材料及び構造 —Structural Dynamics 構造力学 (昭和4年)		<i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授 細目案」-「構造力学」(昭和4年)	
	42. Self-Sustaining Reinforced Concrete Chimney 42. 鉄筋コンクリート獨立式煙突 (Self-Sustaining Reinforced Concrete Chimney)		
	43. Self-Sustaining Steel Chimney 43. 鐵板造獨立式煙突		
	44. Guyed Steel- Chimney 44. 鉄鈹造支線式煙突		
	45. Steel-Framed Chimney 45. 鉄鈹造支枠式煙突		
Chapter 7: Deflection Due to Bonding Stresses 第七章 曲能率に依る梁の撓曲	46. General Description 46. 概説		
	47. Elastic Curve Method 47. 彈性曲線法		
	48. Area-Moment Method 48. 面積曲能率法		
	49. Reload Weight Method 49. 彈重量法		
	50. Deflection Due to Shearing Stresses 50. 剪力に依る梁の撓曲		
	51. Deflection Coefficients 51. 撓曲の係數		
Chapter 8: Continuous Beams 第八章 連梁	52. The Application of the Curvature Formula or Moll's Theorem 52. 撓曲公式又はモールの定理の應用		
	53. Theorem of Three Moments 53. 撓曲公式又はモールの定理の應用		
	54. A Test of the Efficiency of Three Songs 54. 三曲能率方程試の應用		
	55. Classification of Framed Structure 55. 架構の分類		

<i>Waseda Architectural Lecture Notes Shōwa 4th</i> Material and Construction 材料及び構造 —Structural Dynamics 構造力学 (昭和4年)		<i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」-「構造力学」(昭和4年)		
Chapter 9: Framed Structure with Rigid Joints 第九章 剛節架構	56. Principles of Least Work 56. 最小働の法則	Chapter 5: Rigid Frame 五 剛節架構	1. The Main Idea of the Rigid Section Structure 1. 剛節架構の大意	
	57. the Application of the Castaicuano Theorem 57. カステクアノの定理の應用		2. Solutions for Rigid Section Structures 2. 剛節架構の解法	
	58. Slope Deflection Method 58. 撓角撓度法		3. Solution for lateral forces 3. 横力に対する解法	
	59. the Four Curvature Efficiency Theorem and its Applications 59. 四曲能率定理と其の應用		4. Structural Requirements 4. 耐震構造要項	
	60. Transverse Bent 60. トランスワース ベント (Transverse Bent)			
Chapter 10: Framed Structure with Pin Joints 第十章 滑節架構	61. Portal Bracing 61. 橋門構			
	62. Deflection of Flamed Structure with Pin Joints 62. 滑節架構の撓曲			
	63. How to Show Flexural Changes 63. 撓曲變形の図示法			
	64. Solution of General Unsettled Smooth-Jointed Girders 64. 一般不都定滑節架構の解法			
	65. Two-Hinged Arch 65. 二鉸節アーチ			

・ The grey part is the same for both, the blue part is unique to the *Lecture Notes*, and the green part is special to the *Subject Details*.

The grey part is the same for both, the blue part is unique to the *Lecture Notes*, and the green part is special to the *Subject Details*. It is pretty obvious that the subject of *Structural Dynamics* is covered by the *Waseda Architectural Lecture Notes*, which has a huge number of blue columns - related to practical techniques - in addition to the *Subject Details*.

Table 5.7 A Specific Catalogue Comparison of *Construction Materials* for *Waseda Architectural Lecture Notes* and *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*.

<i>Waseda Architectural Lecture Notes Shōw 17th</i> Material and Construction 材料及び構造 — Construction Materials 建築材料 (昭和 17 年)		<i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」-『建築材料』(昭和 4 年)	
Chapter 1: General 第 1 章 總論	1. Power 1. 力	Chapter 1: General 第 1 章 總論	1. General 1. 概説
	1.2 Properties of the Material 1.2 材料の性質		2. Material Identification 2. 材料識別要項
	1.3 Material Testing 1.3 材料試験		3. Material Testing 3. 材料試験
	1.4 Supply of Materials 1.4 材料の供給		4. Supply of Materials 4. 材料の供給
	1.5 The Economics of Materials 1.5 材料の經濟		-
Chapter 2: Wood and Bamboo 第 2 章 木材及び竹材	2.1 Growth and Organisation 2.1 成長と組織	Chapter 2: Wood and Bamboo 第 2 章 木材及び竹材	1. Growth and Organisation 1. 成長と組織
	2.2 Logging and Transport 2.2 伐採及運搬等		2. Forest Storage Logging Transport 2. 山林 伐採 運搬 貯木
	2.3 Sawing Methods 2.3 製材方法		3. Sawing 3. 製材
	2.4 Shrinkage and Drying 2.4 收縮と乾燥		4. Drying and Shrinkage 4. 乾燥と收縮
	2.5 Quality of Wood 2.5 木材の品質		5. Quality of Wood 5. 木材の品質
	2.6 Properties of Wood 2.6 木材の性質		6. Properties of Wood 6. 木材の性質
	2.7 Wood Decay, Worm Damage and Their Conservation and Preservation 2.7 木材の腐朽、蟲害及其の保存存法		7. Timber Types and Standards 7. 各種木材及規格
	2.9 Bamboo Wood 2.9 竹材		-
Chapter 3: Stone, Sand and Gravel 第 3 章 石材、砂、砂利	3.1 Types of Stone 3.1 石材の種類	Chapter 3: Stone, Sand and Gravel 第 3 章 石材、砂、砂利	-
	3.2 Production and Transport 3.2 産出及運搬		1. Production 1. 産出
	3.3 Organization of the Stone 3.3 石材の組織		-

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

	3.4 Properties of Stone 3.4 石材の性質		2. Properties of Stone 2. 石材の性質
	3.5 Processing and Installation 3.5 加工及施工		3. Processing and Installation 3.加工及施工
	3.6 Stone Materials and Standards 3.6 各種石材及規格		4. Stone Materials and Standards 4. 各種石材及規格
	3.7 Sand, Gravel and Small Stones 3.7 砂、砂利、碎石		5. Sand, Gravel and Small Stones 5. 砂、砂利、碎石
Chapter 4: Clay-Soaked Products 第4章 粘土焼成品	4.1 Clay 4.1 粘土	Chapter 4: Clay-Soaked Products 第4章 粘土製品	1. Clay 1. 粘土
	4.2 Shaping and Sinking 4.2 造形及焼成		2. Shaping and Sinking 2. 造形及焼成
	4.3 Properties and Tests 4.3 性質と試験		3. General Properties and Test Methods 3. 一般性質と試験法
	4.4 Various Types of Clay-Sorted Products 4.4 各種粘土焼成品		4. Various Types of Clay-Sorted Products 4. 各種粘土焼成品
	4.5 Standards 4.5 規格		5. Standards 5. 規格
Chapter 5: Cement and Its Products 第5章 セメント及其の製品類	5.1 Cement Types 5.1 セメントの種類	Chapter 5: Cement and Its Products 第5章 セメント及其の製品類	1. Boltland - Cement 1. ボルトランド・セメント
	5.2 Boltland - Cement 5.2 ボルトランド・セメント		
	5.3 Properties and Tests on Bolted-Land Cement 5.3 ボルトランドセメントの性質及試験		
	5.4 Early Strength Cement and Special Cement 5.4 早強セメント及特殊セメント		5. Cement Products 5. セメント製品
	5.5 Mortar & Concrete 5.5 モルタル及コンクリート		2. Mortar 2. モルタル 3. Concrete 3. コンクリート
5.6 Cement Products 5.6 セメント製品	4. Special Cement 4. 特種セメント		
Chapter 6: Materials for Coating Walls 第6章 塗壁材料	6.1 Raw Materials for Coating Walls 6.1 塗壁原料	Chapter 6: Materials for Coating Walls 第6章 塗壁材料	1. Soil and Sand as Main Raw Materials 1. 土、砂主原料のもの 2. Cement Raw Materials 2. セメント原料のもの
	6.2 Painted Wall Products, Mud Walls 6.2 塗壁製品,土壁		3. Lime Raw Materials 3. 石灰主原料のもの 4. Gypsum Raw Materials 4. 石膏原料のもの 5. Other Wall Materials 5. 其他の壁材料

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

Chapter 7: Glass and Its Products 第7章 硝子及其製品	7.1 Raw Materials and Production Methods 7.1 原料と製法	Chapter 9: Glass 第9章 硝子	1. Raw Materials and Production Methods 1. 原料と製法
	7.2 Properties of Glass 7.2 硝子の性質		2. Various Glass 2. 各種硝子
	7.3 Glass Products 7.3 硝子製品		7.3 Products 7.3 製品
Chapter 8: Metal and Its products 第8章 金属及其製品	8.1 Irons & Steel 8.1 鉄及鋼	Chapter 8: Metal and Its products 第8章 金属及其製品	1. Irons & Steel 1. 鉄及鋼
	8.2 Properties of Steel 8.2 鉄鋼の性質		
	8.3 Various Iron and Steel 8.3 各種鉄鋼		
	8.4 Copper, Ya-lead, Lead, Tin and Alumium 8.4 銅,亞鉛,鉛,錫及アルミルウム		2. Copper, Ya-lead, Lead, Tin and Alumium 2. 銅,亞鉛,鉛,錫及アルミルウム
	8.5 Alloys 8.5 合金		3. Alloys 3. 合金
	8.6 Various Alloys 8.6 各種合金		-
	8.7 Plating 8.7 鍍金		-
Chapter 9: Paints and Putty 第9章 塗料及パテ	8.8 Metal Electrical Goods and Standards 8.8 金属電製品及規格		4. Electrical Goods 4. 製品
	9.1 Raw Material for Discharge 9.1 放料の原料	Chapter 7 Paints and Putty 第7章 塗料及パテ	1. Raw Material 1. 原料一般
	9.2 Paints and Enamels 9.2 ペイント及エナメル		2. Paints and Enamels 2. ペイント及エナメル
	9.3 Anise and Lacquer 9.3 アニス及ラッカー		3. Anise and Lacquer 3. アニス及ラッカー
	9.4 Colouring Agents and Optical Fillers 9.4 着色剤及目留劑		5. Colouring Agents 5. 着色剤
	9.5 Lacquer and Amber 9.5 漆及び澁		4. Lacquer 4. 漆
	9.6 Bathe Etc. 9.6 パテ其他		6. Bathe 6. パテ
9.7 Testing of Paints 9.7 塗料の試験	7. Testing of Paints 7. 塗料の試験		
Chapter 10: Waterproofing, Fireproofing, Preservatives, etc. 第10章 防水、防火、防腐劑等	10.1 Waterproofing Materials and Coatings 10.1 防水材及防水劑	Chapter 10: Waterproofing, Preservatives, Fireproofing, etc. 第10章 防水、防腐、防災等	1. Coatings 1. 防水劑
	10.2 Fire Protection Materials 10.2 防火劑		2. Fire Protection Materials 2. 防火劑
	10.3 Preservatives 10.3 防腐劑		2. Preservatives 2. 防腐劑

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

Chapter 11: Plastic Industrial Products 第 11 章 可塑物工業製品	11.1 Synthetic Resins 11.1 各種合成樹脂		
	11.2 Fibre Plasticisers 11.2 纖維素可塑物		
	11.3 Protein-Plastic Relations 11.3 蛋白系可塑物關係		
	11.4 Rubber Relations 11.4 ゴム關係		
Chapter 12: Textile Products 第 12 章 纖維工業製品	12.1 Fibre 12.1 ファイバー		
	12.2 Vulp Industry Relations 12.2 バルブ工業關係		
	12.3 Tecks 12.3 テックス類		
	12.4 Paper and Textiles 12.4 紙及布製品關係		
	12.5 Silk Products 12.5 絹製品關係		
	12.6 Maoran Fibres 12.6 マオラン纖維		
	12.7 Others 12.7 其他		
Chapter 13: Sundry Materials 第 13 章 雜種材料	13.1 Flooring Materials 13.1 床仕上材料	Chapter 11: Sundry Materials 第 11 章 雜種材料	1. Flooring Materials 1. 床仕上材料
	13.2 Wall Board, Wall Paper, Metal Siding & Ceiling 13.2 壁紙ボード類		2. Wall Board, Wall Paper, Metal Siding & Ceiling 2. 壁紙ボード類
	13.3 Roofing Materials 13.3 屋根葺材		3. Roofing Materials 3. 屋根葺材
	13.4 Heat-Proofing Materials 13.4 保温材料		4. Heat-Proofing Materials 4. 保温材料
	13.5 Sound-Absorbing Materials 13.5 吸音材料		5. Sound-Absorbing Materials 5. 響止材料
	13.6 Mats & Carpets 13.6 敷物類		6. Mats & Carpets 6. 敷物類
	13.7 Materials for Window Coverings 13.7 窓廻り材料		7. Materials for Window Coverings 7. 窓廻り材料
	13.8 Jointing Materials 13.8 聯結又は接合材料		8. Other Materials 8. 其他

• The grey part is the same for both, the blue part is unique to the *Lecture Notes*.

According to the table 3.3 in Chapter 3, the page number for *Construction Materials* in the *Waseda Architectural Lecture Notes* Shōwa 8th - Shōwa 16th was 320 pages, whereas the table above was 289 pages for *Construction Materials* from Shōwa 17th.

Therefore, it be inferred that the *Construction Materials* in the Shōwa 8th edition actually covered more content than that in the Shōwa 17th edition. Table 5.7 above explained that the *Waseda Architectural Lecture Notes* have more materials relating to practical architecture than they did covering *Subject Details*. Although it is not possible to determine whether this additional content was originally available in Shōwa 4th, it is certain that the lecture notes were fully covered in *Subject Details* at the outset and that the chapter order was more logical.

In *General Architecture Structural Methods* (table 5.8 in next page), the *Waseda Architectural Lecture Notes* matched *Subject Details* entirely.

Table 5.8 A Specific Catalogue Comparison of *General Architecture Structural Methods* for *Waseda Architectural Lecture Notes* and *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*⁸⁹.

<i>Waseda Architectural Lecture Notes Shōw 4th</i> Material and Construction 材料及び構造 (昭和4年)		<i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」-「建築構造」(昭和4年)
General Architecture Structural Methods 一般構造法	1. Review 1. 概説	1. General Introduction 1. 総論
	2. Foundation 2. 基礎	8. Foundations 8. 基礎
	3. Walls 3. 壁	2. Masonry and Stonework Walls 2. 煉瓦造及石造壁體
		3. Wooden Walls 3. 木造壁體
		4. Steel-frame Walls 4. 鐵骨造壁體
	4. Floor Construction 4. 床構造	6. Floor Construction 第六章、床組及床
	5. Roof 5. 屋根	5. Roofing 5. 小屋組及屋根
	6. Roofing 6. 屋根葺	
	7. Ceiling 7. 天井	9. Stairs, Ceiling, and Panel. 第九章、階段、天井、羽目、等
	8. Baseboard and Panel 8. 巾木及腰羽目	
	9. Window at the Entrance 9. 出入口並に窓	
10. Stairs 10. 階段	10. Painting 10. 建築物の塗装	
11. Painting 11. 塗装		
Steel Frame Construction 鉄骨構造	Omitted	-
Reinforced Concrete Construction 鉄筋コンクリート		7. Reinforced Concrete Construction 7. 鐵筋コンクリート
Earthquake Resisting Construction 耐震計算		11. Ancillary Buildings and Miscellaneous Structures 11. 附屬建築物及雜種構造物 12. Disaster and Prevention in Buildings 12. 建築物の災害と其の防止
Industrial Mathematics 工業数学	Omitted	-
Japanese Home Tectonics 日本家屋構造	Omitted	-

• The grey part is the same for both, the blue part is unique to the *Lecture Notes*.

⁸⁹ Contains four remaining subjects that cannot be compared.

Table 5.9 A Comparison of *Architectural Equipment* for *Waseda Architectural Lecture Notes* and *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*.

<i>Waseda Architectural Lecture Notes-4th</i> 『早稲田建築講義録』 Architectural equipment 建築設備 (昭和 4 年)		<i>-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書 編纂委員会教授細目案」
Architectural equipment 建築設備	Mechanical Equipment/Equipment for Building 機械設備	1. General Description 1. 概説 7. Elevator 7. 昇降装置
	Sanitation Equipment 衛生設備	8. Sanitation Equipment 8. 衛生設備 9. Fire Extinguishing Equipment 9. 消火設備
	Heating and cooling equipment 暖房冷房設備	6. Heating and Ventilation 6. 暖房と換気
	Ventilation equipment 換気設備	
	Architecture Electrical Code 建築電気工学	2. Electrical and Mechanical General 2. 電気及機械一般
	Lamp Illumination 電灯照明及照明法	3. Electrical Power Distribution 3. 電力配給
		4. Lighting 4. 照明
Contract Plan and Equipment 施工計画及設備	5. Communications, Signalling and Electrical Timings 5. 通信、信號及電気時計 10. Miscellaneous Equipment 10. 雜設備	

Table 5.10 A Specific Catalogue Comparison of *Architectural Equipment* for *Waseda Architectural Lecture Notes* and *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*.

<i>Waseda Architectural Lecture Notes-4th</i> 『早稲田建築講義録』 Architectural equipment 建築設備 (昭和4年)		<i>-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」	
Mechanical Equipment for Building 機械設備	1. Motor 1. 原動機	1. General Description 1. 概説	
	2. Elevator 2. 昇降機	7. Elevator 7. 昇降装置	
	3. Transport Equipment 3. 搬送設備		
Sanitation Equipment 衛生設備	1. Water Supply Equipment and Water Usage 1. 給水設備と水の使用量	8. Sanitation Equipment 8. 衛生設備	1. Water 1. 水
	2. Water Well And Source of River 2. 井戸及水源		
	6. Water Purification Method 6. 浄水法		
	4. Hydraulic Requirements 4. 水力学要項		-
	5. Pump 5. ポンプ (揚水機)		-
	3. Water Properties And Tests 3. 水の性質及其の試験		-
	7. Water Supply Facility Based on Water Supply 7. 水道に依る給水設備		2. Water Supply 2. 給水
	8. Water Supply Piping Equipment 8. 給水配管設備		
	9. Faucets 9. 水栓類		-
	10. Waterpipe 10. 給水管		-
	12. Warm Water Method 12. 給湯法		3. Warm Water 3. 給湯
	13. Sanitary Equipment 13. 衛生器具		5. Sanitary Equipment 5. 衛生器具
	14. Trap (Deodorant Bun) 14. トラップ (防臭)		-
	15. Drainage Pipes 15. 排水管類		6. Pipes 6. 管類
	16. Indoor Drainage 16. 屋内排水		4. Drainage 4. 排水
17. Sewage Separation Method 17. 汚水處分法	8. Toilet And Sewage Installation		

<i>Waseda Architectural Lecture Notes-4th</i> 『早稲田建築講義録』 Architectural equipment 建築設備 (昭和4年)		<i>-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」	
			8. 汲取便所及汚水装置
	-		7. Construction Method 7. 施工法
	11. Indoor Fire Extinguishing Equipment 11. 屋内消火設備	9. Fire Extinguishing Equipment 9. 消火設備	1. Fire Extinguishing Installations 1. 消火装置 2. Fire Alarm System 2. 火災報知装置
	1. The Concept of Heating House 1. 暖房の概念	6. Heating And Ventilation 6. 暖房と換気	1. General 1. 一般要項
	2. The Physical Basis of Heating Houses 2. 暖房の物理学的基礎		
	3. The Method of Losing Heat 3. 損失熱量の方法		
	4. Warm Water Tank and Steam Tank 4. 温水罐と蒸汽罐		
	5. Radiator and Heater 5. 放熱器と加熱器		2. Heater 2. 加熱器
	6. Accessories of The Radiator 6. 放熱器の附屬品		
	7. Connection Method of The Iron Pipe 7. 鉄管と接手		
	8. Pumps 8. 筒		
	9. Fire Room Heating Device 9. 火気暖房装置		
	10. Warm Water Heating Room Device 10. 温水暖房装置		6. Warm Water Heating Room 6. 温水暖房
	11. Forced Warm Water Heating Room Device 11. 強制温水暖房装置		
	12. Steam Room Heating Device 12. 蒸汽暖房装置		3. Steam Room Heating 3. 蒸汽暖房
	13. Thermal Heating Room Method 13. 熱氣暖房法		4. Thermal Heating Room 4. 熱氣暖房
	14. Humidity Adjusting Device 14. 濕度調節装置		7. Humidity Adjusting Device 7. 濕度調節装置
Ventilation equipment 換気設備	1. General 1. 總論		5. Ventilation Method

<i>Waseda Architectural Lecture Notes-4th</i> 『早稲田建築講義録』 Architectural equipment 建築設備 (昭和4年)		-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools 「建築学会実業学校程度ノ標準教科書編纂 委員会教授細目案」	
	2. Ventilation Method 2. 換気方法		5. 換気方法
	3. Air Cleaning Method, Heating Method A Nd Dehumidification Method 3. 空気の清浄法、加熱法及減濕法		
	4. Sending Machine and Exhausting Machine 4. 送気機及排気機		
	5. Duct Design and Structure 5. ダクトの設計及構造		
Architecture Electrical Code 建築電気工学		2. Electrical and mechanical general 2. 電気及機械一般	
Lamp Illumination 電灯照明及照明法		3. Electrical power distribution 3. 電力配給	
		4. Lighting 4. 照明	
		5. Communications, signalling and electrical timings 5. 通信、信號及電気時 計	
Contract Plan and Equipment 施工計画及設備		10. Miscellaneous equipment 10. 雑設備	

* The grey part is the same for both, the blue part is unique to the *Lecture Notes*.

The orange section is the one where the two can be reconciled, however, the absence of the subject/chapter makes it impossible to compare in detail.

As shown in Table 5.9, the section on *Architectural equipment* was similarly divided into seven sets of subjects of the *Waseda Architectural Lecture Notes*, thus corresponding to the *Architectural equipment* on *Subject Details*.

In Table 5.9 and Table 5.10, the author has surveyed the syllabus and specific teaching content for the *Architectural equipment* category of both. Although it can be observed that the syllabus is the same, a comparison of each subject/chapter (Table 5.10) shows that the *Waseda Architectural Lecture Notes* had expanded the content of each sub-chapter on the basis of the *Subject Detail* syllabus.

It is relevant to note that the orange section is the one where the two can be reconciled, however, the absence of the subject/chapter makes it impossible to compare in detail.

Table 5.11 A Specific Catalogue Comparison of *Implementation Plan* for *Waseda Architectural Lecture Notes* and *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*.

<i>Waseda Architectural Lecture Notes-4th</i> 『早稲田建築講義録』 Implementation Plan 実施計画 (昭和4年)		<i>-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」
Surveying 測量	1. General 1. 緒論	1. General 1. 緒論
	2. Chain Surveying 2. 測鎖	2. Design Documentation 2. 設計書類
	3. Compass Measurement 3. 羅盤測量	
	4. High and Low Surveying 4. 轉鏡儀測量	
	5. High And Low Surveying 5. 高低測量	
	6. Flat Surveying 6. 平板測量	
	7. Area Calculation Method 7. 面積の計算	
	8. Volume Calculation 8. 體積の計算	
	9. Surveying Drawing Method 9. 測量製圖法	
	10. Instrument Adjustment Method And Problems 10. 器械整正法及び問題	
Specification 仕様書	1. Outline of Construction 1. 工事概要	3. Construction Implementation 3. 工事実施の方式
	2. Main Construction Specifications 2. 木工事概要	
	3. Incidental Work 3. 附帯工事	
	4. Cautions 4. 注意事項	6. Construction Machinery 6. 施工機械
Integration 積算法	1. Significance and Requirements of The Multiplication Method 1. 積算法の意義及要項	7. Specification 7. 仕様書 8. Integration 8. 積算法
	2. Assume Construction 2. 假設工事	
	3. Foundation Construction 3. 基礎工事	
	4. Concrete Construction 4. コンクリート工事	
	5. Reinforced Construction 5. 鉄筋工事	
	6. Steel Construction 6. 鉄骨工事	

<i>Waseda Architectural Lecture Notes-4th</i> 『早稻田建築講義録』 Implementation Plan 實施計畫 (昭和4年)		<i>-The Standard Textbooks Compilation</i> <i>Committee of the Architectural Institute of</i> <i>Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書 編纂委員会教授細目案」	
	7. Waterproof Construction 7. 防水工事		
	8. Brick Construction 8. 煉瓦工事		
	9. Roof Tile Construction 9. 張瓦工事		
	10. Masonry 10. 石材工事		
	11. Wood Construction 11. 木材工事		
	12. Metal Construction 12. 金物工事		
	13. Joinery Construction 13. 建具工事		
	14. Metal Joinery Construction 14. 建具金物工事		
	15. Roofing Construction 15. 屋根工事		
	16. Plastering Construction 16. 左官工事		
	17. Glass Construction 17. 硝子工事		
	18. Painting Construction 18. 室師工事		
	19. Scroll Mounter Construction 19. 經師工事		
	20. Site Construction 20. 敷地工事		
	21. Miscellaneous Construction 21. 雜工事		
	22. Samples 22. 實例		
Regulations and Application 法規及出願手續			4. Admissions and Contracts 4. 入札及契約

• The grey part is the same for both, the blue part is unique to the *Lecture Notes*, and the green part is special to the *Subject Details*.

Although there were not pretty much projects in the *Implementation Plan*, the same as the previous three categories, the *Waseda Architectural Lecture Notes* were more informative.

Next, the *Overview and History*. It is noteworthy that the author divided the differently named *Overview and History* in the *Waseda Architectural Lecture Notes* into the same category as the *Architectural Styles* in the *Subject Details*. The reason is that a comparison of the specific subjects in this category reveals a high degree of consistency between the two which showed in Table 5.12. The *Waseda Architectural Lecture Notes* divided the historical subjects into 8 subjects, the first three of which corresponded exactly to the guidelines in the *Subject Details*, and the content were more extensive while the curriculum was more logically planned.

Table 5.12 A Specific Catalogue Comparison of *Overview and History* and *Architectural styles* for *Waseda Architectural Lecture Notes* and *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*.

<i>Waseda Architectural Lecture Notes</i> 【早稲田建築講義録】		<i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委 員会教授細目案」		
Overview and History 概論及び歴史	Orient Architectural History Outline 東洋建築史概説	1. Islan Architecture 1. 回教建築	Architectural styles 建築様式	9. Islan Architecture 9. 回教建築
		2. India Architectural history 2. 印度建築史		2. India, China, Korea Architectural history 16. 印度、支那及朝鮮の建築
	Western Countries Architectural History 西洋建築史	1. General 1. 総論		1. General 1. 総論 2. Prehistoric Architecture 2. 有史以前の建築
		2. Egypt Architecture 2. 埃及建築		3. Egypt Architecture 3. エジプトの建築
		3. Western Asian Architecture 3. 西方亜細亜建築		4. Western Asian Architecture 4. 西アジアの建築
		4. Greece Architecture 4. ギリシア建築		5. Greece Architecture 5. ギリシヤの建築
		5. Roma Architecture 5. ローマ建築		6. Roma Architecture 6. ローマの建築
		6. Initial Christianity Architecture 6. 初期基督教建築		7. Initial Christianity Architecture 7. 初期キリスト教建築
		7. Byzantine Architecture 7. ビザンチン建築		8. Byzantine Architecture 8. ビザンチン建築
		8. Romanesque Architecture 8. ローマネスク建築		10. Romanesque Architecture 10. ローマネスク建築
9. Gothic Architecture 9. ゴシック建築	11. Gothic Architecture 11. ゴシック建築 12. Gothic Revival Architecture 12. 復興式建築 13. Later Gothic Revival Architecture 13. 後期復興式時代の建築			

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

	-		
	-		
Japanese Architectural History 日本建築史	1. General 2. Prehistoric history 3. Asuka period 4. Early Nara period (Hakuho period) 5. Late Nara period (Tempyo period) 6. Early period (Hirohito period) 7. Late Heian period (Fujiwara period) 8. Kamakura period 9. Muromachi period 10. Momoyama period 11. Edo period 12. Tokyo period 1. 総論 2. 先史時代及び原史時代 3. 飛鳥時代 4. 寧樂時代前期（白風時代） 5. 寧樂時代後期（天平時代） 6. 平安時代前期（弘仁時代） 7. 平安時代後期（藤原時代） 8. 鎌倉時代 9. 室町時代 10. 桃山時代 11. 江戸時代 12. 東京時代	17. Japanese Architectural History 17. 日本の建築	
Architecture Outline 建築汎論	Omitted		
Configuration Art Argument 構成美論	Omitted		
Modern Architecture Outline 近代建築概論		14. America Architecture 14. アメリカの建築 15. Modern Architecture 15. 近代の建築	
Craft Art History 工藝美術史	Omitted		
Decoration Method 裝飾法	Omitted		

• The grey part is the same for both, the blue part is unique to the *Lecture Notes*, and the green part is special to the *Subject Details*.

Followed with a comparison of *Architectural Plan*, as in the *Overview and History* category, while maintaining a high degree of consistency, the *Waseda Architectural Lecture Notes* dedicated a separate subject to the buildings in each section of the *Subject Details*. It is significant to highlight that the lighter grey areas of the Table 5.13 emphasized the characteristic of the *Waseda Architectural Lecture Notes*, which did not include administrative buildings and some non-functional buildings, maintained the overall approach of a “*Practical*” school.

Table 5.13 A Specific Catalogue Comparison of *Architecture Plan* for *Waseda Architectural Lecture Notes* and *Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools*.

<i>Waseda Architectural Lecture Notes</i> 『早稲田建築講義録』		<i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」		
Architecture Plan 建築計画	Residential Building 住宅	Architecture Plan 建築計画	3. Residential Building 3. 住居建築	Residential Building 住宅
	Apartment House アパートメントハウス			Apartment アパートメント
	Factory Building 工場		4. Industrial Building 4. 産業建築	Factory Building 工場
	Warehouse 倉庫			Warehouse 倉庫
	The Department Store 百貨店			The Department Store 市場
	Automobile Garage 自動車庫			Garage ガレージ
	Store 商店			Store 商店
	Office Building 貸事務所			Office Building 事務所
	Bank 銀行		Bank 銀行	
	School 学校		5. Edifying Building 5. 教化建築	School 学校
	Library 図書館			Library 図書館
	Museum 博物館及美術館			Museum 博物館及美術館
	Shrines and Temples 社寺			Shrines and Church 社寺及教会
	Church 教会			

<i>Waseda Architectural Lecture Notes</i> 『早稲田建築講義録』		<i>Subject Details-The Standard Textbooks Compilation Committee of the Architectural Institute of Japan for the Industrial Schools</i> 「建築学会実業学校程度ノ標準教科書編纂委員会教授細目案」	
Theatre and Cinema 劇場及映画館		6. Entertainment Building 6. 慰安建築	Theatre 劇場
Physical Education Facility 体育館施設			Stadium 運動場
-		7. Administrative Building 7. 行政建築	Government Offices 官衙及公署
-			Courts 裁判所
Hospital Building 病院			Hospital Building 病院
-		8. Sanitary Building 8. 衛生建築	Crematorium 火葬場
-			Baths 浴場
Clubs 倶楽部		9. Other Buildings 9. 其他の建築	Clubs 倶楽部
Hotel and Restaurant ホテル及レストラン		1. The Meaning of Architecture 1. 建築の意義	
Memorial building 記念建造物		2. Elements of Planning 2. 計画の要項	

• The grey part is the same for both, the blue part is unique to the *Lecture Notes*, and the green part is special to the *Subject Details*.

The comparison between the *Overview and History* and *Architectural Plan*, categories presented that Waseda University had not only highly coincided the subject categories of the *Subject Details*, but also retained the category of *Drawing* in addition to the original Discussion of the Ministry of Education, Science and Culture. The word “retained” was applied due to the fact that it was discussed whether to remove the relatively confusing section on *Drawing* and *Practice* from the Ministry of Education, Science and Culture at the Compilation Committee of the Architectural Institute of Japan in Shōwa 2nd.

Although the Compilation Committee of the Architectural Institute of Japan’s resolution of Shōwa 4th eventually removed the section on *Drawing* and *Practice*, it is possible to assume that the *Waseda Architectural Lecture Notes*, with NAITŌ’s participation, was already being prepared in the form of the Committee’s content before

the resolution was issued. Another piece of evidence that also solidified the speculation is that the resolution in Shōwa 4th, it was specifically stated that there were already mature commercial textbooks for the category of *Building Regulations*, thus they were excluded from consideration of the *Subject Details* for the time being.

According to the above speculation, Waseda University had already begun edited on the preparation of the Lecture Notes during the duscussion of the *Subject Details*. Therefore, it kept up with the simultaneous release of the text after the Resolution in Shōwa 4th. However, the subject of *Building Regulations* was not removed in time for the original edition but was removed from the sixth issue later on.

Therefore, according to the comparison results, it can be said that the proportions of each subject in the *Waseda Architectural Lecture Notes* are consistent with the educational policy of industrial architectural education. In other words, it can be inferred that the *Waseda Architectural Lecture Notes* are also standard textbooks compiled following the requirements of the Architectural Institute of Japan.

5.3 Changes in Architectural Books and Lecture Notes from the Meiji Period to the Shōwa Period

5.3.1 Architecture-related textbooks - Meiji Period

Before the Meiji Period, construction techniques were taught to apprentices by masters on-site through oral transmission. For example, *Kenchigaku Kaitei* by Tatsutarō NAKAMURA⁹⁰, *Kenchiku Kōgi-roku* by Daikichi TAKI⁹¹, and *Wayō kairyō Dai Kenchigaku* by Shirō MITSUHASHI⁹² were published as textbooks on architecture by the Taishō Period. These publications intended was to systematize knowledge and techniques of architecture and disseminate them to the general public.

After studying Western technology began during the Meiji Period, foreign instructors brought in new techniques. One part was taught to Japanese workers on site, and the other part was learned at the Imperial College of Engineering. After graduation, most of the students who studied from foreigners in the Imperial College of Engineering would go on to work for the national government and other related departments or stay in the educational institutions to work on architectural education. They basically did not participate in general construction site work, so architectural textbooks began to exist as a dissemination medium for the popularization of foreign-style architecture.

This section provides a general summary of the architectural books in the Meiji Period, as shown in the Table 5.14, and introduces three relatively essential architectural textbooks.

⁹⁰ Tatsutarō NAKAMURA. 1887. *Kenchigaku Kaitei*. Tokyo: Yonekuraya shoten.

⁹¹ Daikichi TAKI. 1888. *Kenchiku-gaku kōgi-roku*. Tokyo: Kenchiku shoin.

⁹² Shirō MITSUHASHI. 1908. *Wayō Kaikaku Dai kenchiku-gaku*. Tokyo: Ōkura shoten.

Table 5.14 The summary of architectural books in the Meiji Period.

Publication Year	Books	Authors	Translation Proofreading	Publishers	Remarks
1872 (Meiji 5 th)	<i>Seiyō Kasaku Hinagata</i> 『西洋家作雛形』	C. Bruce Allen	Fumio MURATA 村田文夫 Kōichirō YAMADA 山田貢一郎	Tamayamado	Translation Book Translated from Cottage Building
1884 (Meiji 17 th)	<i>Zō-Ka-Hō</i> 『造家法』	S.W. Chambers	Naokichi TSUZUKI 都築直吉 Taisuke ŌTORI 大鳥圭介	Maruzen	Translation Book Translated from Encyclopedia (Information for people)
1886 (Meiji 19 th)	<i>Zō-Ka Hikkei</i> 『造家必携』	Josaih Conder	Shūji MATSUDA 松田周次 Tatsuzō SONE 曾根達蔵	Ryōkichi Katō	Dictated translation and written text, serialized in the Journal of the Japan Society of Industrial Engineers in 1884 and 1885
1888 (Meiji 21 st)	<i>Kenchiku-gaku Kaitei</i> 『建築学階梯』	Tatsutarō NAKAMURA 中村達太郎		Yonekura-ya Shoten	Described by job category
1890 (Meiji 23 rd)	<i>Kenchiku-gaku kōgi-roku</i> 『建築学講義録』	Daikichi TAKI 瀧大吉		Kenchiku Shoin	Described by job category
1891 (Meiji 24 th)	<i>Kenchiku-gaku Teiyō</i> 『建築学提要』	Suekichi CHIBA 千葉末吉	Tatsutarō NAKAMURA 中村達太郎	Fuchi-ten-dō	Described by material
1891 (Meiji 24 th)	<i>Nihonkenchiku Kōzō Kairyō-hō</i> 『日本建築構造改良法』	Tamekichi ITŌ 伊藤為吉	Tatsutarō NAKAMURA 中村達太郎 Dairoku KIKUCHI 菊池大麓	Itō-gumi Kenchiku-bu	Proposal for Structural Improvement Method after the Mino-Ohari Earthquake
1894 (Meiji 27 th)	<i>Yōkan kenchiku sekkei-sho Kakukaku Shiki</i> 『洋館建築設計書々式』	Tomokata TATEKAWA 立川知方	None	Hiraki kō-sha	Integration
1897 (Meiji 30 th)	<i>Kenchiku Sekkei-tsūsho</i> 『建築設計通書』	Seiichi ASAKURA 朝倉清一	Kingo TATSUNO 辰野金吾	Kyōeki shōsha	Specification Document

Publication Year	Books	Authors	Translation Proofreading	Publishers	Remarks
1900 (Meiji 33 rd)	<i>Jitsuyō Kenchiku Binran</i> 『実用建築便覧』	Naoji TAKENUKI 竹貫直次	Tamekichi ITŌ 伊藤為吉	Tōkyō Hirofumi-kan	Memorandum, design rules, weight tables, strength tables, and weights and measures by topic
1905 (Meiji 35 th)	<i>Kenchiku hikkei</i> 『建築必携』	Hurst, John Thomas	Denzaburo IMAI 今井殿三郎	Kenchiku Shoin	Translation Book
1908 (Meiji 41 st)	<i>Wayō Kaikaku Dai kenchiku-gaku</i> 『和洋改良大建築学』	Shirō MITSUHASHI 三橋四郎		Ōkura shoten	General Architecture Book
1909 (Meiji 42 nd)	<i>Kougaku Benran Sousho 4th Kenchiku Sekkei Binran</i> 『工学便覧叢書第四編 建築設計便覧』	Itoichi KONDŌ 近藤胤一		Shūgaku-dō	

The students at the Imperial College of Engineering were the first group to study Western architecture systematically in the Meiji Period, and the textbook was written by students of Josaih Conder, Tatsutarō NAKAMURA and Daikichi TAKI. NAKAMURA wrote the book “*Kenchiku-gaku Kaitei*” in 1888 (Meiji 21st). TAKI published a book of lecture notes called “*Kenchiku-gaku kōgi-roku*” on architecture in 1890 (Meiji 23rd). These two books are widely used in general construction sites and belong to the early textbooks of architecture.

- ① “*Kenchiku-gaku Kaitei*”(『建築学階梯』). Edited by Tatsutarō NAKAMURA (中村達太郎), published on September 24, Meiji 21st, YONEKURAYA SHOTEN (米倉屋書店).

After graduating in 1882, NAKAMURA joined the Ministry of Industry (Kōbushō), where he worked on the construction of the Imperial Palace (Meiji Palace), and in 1887 he was appointed assistant professor of the Department of Architecture at the University of Technology. The first and second volumes of “*Kenchikugaku Kaitei*” were published by Yonekuraya Shoten in 1888, the third volume in 1889, and the fourth volume in 1890. It can be said that this is the first comprehensive book on architecture in Japan to disseminate architectural knowledge, as both Horiguchi and Tsunoda have mentioned. As stated in the following preface, the motivation for the publication of this book was based on the introduction of new foreign technologies.

“Preface”⁹³

It is no coincidence that European architecture has been on the rise in recent years and is on the verge of surpassing Japanese architecture.

Unfortunately, the craftsmen wasted a lot of precious time because of the lack of books.

This is indeed a deficiency in Japanese architecture. But what is it if it is not our duty to compile books to make up for these deficiencies and guide our students? In other words, without regard to my lack of education, I have translated for many years, or revised and added to the drafts that I have recorded, and I wish to publish them for the world to see, so that they may be of use to the artisans who spend their years in vain. This is my only intention.”

According to the preface, Japanese architecture is admired by foreigners. Yet, in foreign countries, skyscrapers are built, which are considered inferior to ordinary residential architecture. Therefore, it is necessary to continuously improve ordinary residential architecture, such as houses. However, Japanese architecture books are lacking in content, and their updating is lagging.

Therefore, NAKAMURA himself translated and collected drafts and published for the education of his apprentices. In other words, this book is not intended for students at the Imperial College of Engineering, but for ordinary craftsmen involved in general construction, such as housing, and is positioned as a book of architectural knowledge for improving houses in contrast to conventional housing construction.

② “*Kenchiku-gaku kōgi-roku*” (『建築学講義録』). Edited by Daikichi TAKI (瀧大吉), published on September 24, Meiji 23rd, KENCHIKU SHOEN (建築書院).

According to “*In Memoriam of Daikichi TAKI, Bachelor of Engineering*”⁹⁴, in 1890 (Meiji 23rd), TAKI was appointed to the position of General Manager in the Construction Department at Meiji Kogyo Company in Kobe, but he left the company in April 1889 (Meiji 22nd) to establish an appraisal office for construction works and an industrial night school in Osaka. Here he published a series of lectures on architecture, enthusiastically teaching students through his experience and knowledge. Although, the memorial article does not indicate when TAKI opened an

⁹³ Tatsutarō NAKAMURA. 1887. *Kenchigaku Kaitei*. Tokyo: Yonekuraya shoten.

⁹⁴ MITUHASHI, S. (1902). In Memoriam of Daikichi Taki, Bachelor of Engineering, *Journal of Architecture and Building Science*, No. 192, pp. 362-365, 1902.12 三橋四郎: 故工学士瀧大吉氏の伝, 建築雑誌 192, p362-365, 1902.12

appraisal office for construction works and an industrial night school in Osaka after leaving Meiji Kogyo Company, and when he published *Lecture Notes of Industrial Night School*.

There was additional research on the distribution time of lecture notes, etc. SHIMIZU⁹⁵, MITSUHASHI, and HORI⁹⁶'s papers had some inaccuracies, but the latest research is HIRAYAMA⁹⁷'s research, which corrects the mistakes of previous research and investigates the specific distribution time of lecture notes and the joint publication of the "*Kenchiku-gaku kōgi-roku*" and summarizes the following conclusions.

"This article paid off the activity that Daikichi Taki performed in Kansai from about November 1888 to February 1891 and considered "Kogyo-yogakko", which Taki founded, "Kogyo-yogakko-kougiroku" used in this school, and the process of the bound volumes' publication of "Kentikugaku-kougiroku". It is the following points to become apparent.

In "Kogyo-yogakko", which Taki and others started on June 1, 1890, a class was performed three times every week on Friday, Monday and Wednesday from 18:30 to 21:00. And the separate volume of "Kogyo-yogakko-kougiroku" launched as a correspondence course in "Kogyo-yogakko" on October 5, the same year was published afterwards on 25th on 15th on 5th of every month. Taki moved to Tokyo in February 1891, he changed the name of "Kogyo-yogakko-kougiroku" separate volume to "Kentikugaku-kougiroku" particular volume afterward and continued publishing it, but the publication of the book stopped soon from June 1891. "Kentikugaku-kougiroku" separate volume, continuing publication began in July 1893 by pushing of Yoneziro YOSHIHARA, the publication of this book was 20th every month. The book met the final number of in August 1894 and worked on editing, and "Kentikugaku-kougiroku" bound volumes were published on April 15, 1896."

The following preface explains the target readers for the book.

As explained in the preface, this book was published to provide the general public with the content of lectures given for night schools. This differs from NAKAMURA's work, which was based on material published in architectural

⁹⁵ SHIMIZU, K. (1981). On the secondary architectural education before or after several years since 1887. *Transactions of the Architectural Institute of Japan*, 310 (0), 143-151. doi:10.3130/aijsaxx.310.0_143

⁹⁶ Takeyoshi, H. (1982). Dakichi TAKI- An eccentric architect as one of 7 Unique Architects of Modern Japan. *Journal of Kagaku Asahi*, 1982.07

⁹⁷ HIRAYAMA, I. (2018). STUDY ON THE PUBLICATION OF "KENTIKUGAKU-KOUGIROKU" LECTURED BY DAIKITI TAKI AND KOUGYO-YOGAKKO. *Journal of Architecture and Planning (Transactions of AIJ)*, 83 (752), 1999-2005. doi:10.3130/aija.83.1999

journals. It can be said that the book was designed for secondary education⁹⁸ from the beginning. At the beginning of the book, it says, “*The main purpose of publishing the Lecture Notes of the Industrial Night School: The Society of Industrial Engineers has been studying and majoring in industrial encyclopedias, while the Society of Architects and Building Engineers and the Society of Chemistry has been teaching and discussing the two subjects of architecture and chemistry. However, their lectures tend to be a little too lofty and do not meet the intentions of many industrialists. For this reason, industrialists should not go to the doors of advanced people every time, but rather read books and study them for themselves. This is the only way to improve your industry.*”⁹⁹ This passage highlights the necessity of this book. In the following sentences, the author states that he has written this book based on his experiences at the night school. “*We have established the Industrial Night School and have been teaching two courses of architecture and chemistry for those who do not have the time to come to school during the day. I hope to meet the needs of those who do not have the leisure to come to school at night and those who are keen to work in the countryside, and if I can fill in some of his gaps, how can it be only my happiness? I would like to make a few remarks about the purpose of this publication.*”¹⁰⁰

The industrialists had no place to study and no books to read, so they opened night schools and published this book for those who could not come to school or were in rural areas. In other words, just like NAKAMUR’s “*Kenchiku-gaku Kaitei*”, TAKI’s “*Kenchiku-gaku kōgi-roku*” was intended for practising craftsmen.¹⁰¹ It is worth noticing that in TAKI’s explanation is that not only architecture but also “*chemistry*” was in the same environment.

③ “*Wayō Kaikaku Dai kenchiku-gaku*” (『和洋改良大建築学』). Edited by Shirō MITSUHASHI (三橋四郎), published on Meiji 41st, ŌKURA SHOTEN (大倉書店).

After graduating from the Department of Architecture at the Imperial College of Engineering in 1893 (Meiji 26th), MITSUHASHI worked for the Ministry of the Army (Rikugun-shō)¹⁰². In 1898 (Meiji 31st), he became an engineer at the Ministry of Communications (Teishin-shō)¹⁰³, where he was responsible for constructing the

⁹⁸ 中等教育：secondary education

⁹⁹ Daikichi TAKI. 1888. *Kenchiku-gaku kōgi-roku*. Tokyo: Kenchiku shoin.

¹⁰⁰ Daikichi TAKI. 1888. *Kenchiku-gaku kōgi-roku*. Tokyo: Kenchiku shoin.

¹⁰¹ Mayumi TSUNODA, (2016). Acceptance of knowledge and technology in architectural studies during the Meiji Period Retrieved from <https://ci.nii.ac.jp/ncid/BB21655723>

¹⁰² The Ministry of the Army (陸軍省, Rikugun-shō), also known as the Ministry of War, was the cabinet-level ministry in the Empire of Japan charged with the administrative affairs of the Imperial Japanese Army (IJA). It existed from 1872 to 1945.

¹⁰³ The Ministry of Communications (逓信省, Teishin-shō) was a Cabinet-level ministry in the Empire of Japan. Its

post office building. In 1905 (Meiji 38th), Shirō MITSUHASHI published “*Wayō Kaikaku Dai kenchiku-gaku*”, which can be said to be a complete architectural book. The first volume was published in February 1905 (Meiji 38th), and the second volume in December 1905 (Meiji 38th). In 1906 (Meiji 39th), he became an engineer of the city of Tokyo and the head of the Repair Section. When the third volume was published in May 1908 (Meiji 41st), he had established the Mitsuhashi Architectural Office in the same year. The sequel volume was published in 1911 (Meiji 44th).

In the introduction, he explains the contents of this book in particular as follows:
“*Actual history of the compilation of this book*

This book contains detailed descriptions of architectural history, the artistic balance of buildings, drafting methods, architectural perspective, calculation methods, improved houses, etc. Especially in the history section, dozens of original books are compared to explain the origin, evolution, and transition of architecture. Each architectural style is classified by country or period to clarify its lineage and propagation. In the General Theory of Architecture, the characteristics of each architectural style are listed for comparison with other techniques, and in the Classification of Architectural Styles, each period is distinguished. In addition, the book contains hundreds of photographs that have been rarely seen over the years, as well as a selection of illustrations from various reference books, to make it easier to understand architectural forms and structures.”¹⁰⁴

In this description, “architectural history” seems to occupy a large part of the book, but in this three-volume book, history, planning, structure and construction methods are arranged in a well-balanced manner. The last part of the book mentions the earlier studies and predecessors that he referred to, all of whom were leading researchers who taught at Tokyo Imperial University.”

From the above, we could conclude that NAKAMURA’s “*Kenchiku-gaku Kaitei*” and TAKI’s “*Kenchiku-gaku kōgi-roku*” are the origins of the architectural textbooks of the Meiji Period, the following architectural books are complementary to their contents. Finally, MITSUHASHI’s “*Wayō Kaikaku Dai kenchiku-gaku*” could be regarded as the completed version of the comprehensive architectural books of the Meiji Period.

modern successors include the Ministry of Internal Affairs and Communications, Japan Post and Nippon Telegraph and Telephone

¹⁰⁴ Shirō MITSUHASHI. 1908. *Wayō Kaikaku Dai kenchiku-gaku*. Tokyo: Ōkura shoten.

5.3.2 *Waseda Architectural Lecture Notes* and other Architectural Lecture Notes in Taishō-Shōwa Period

- ① “*ARUSU Architecture Lectures*” (『アルス建築大講座』). Published by ARUSU, 1926-1928.

It was published by ARUSU, a company run by Tetsuo KITAHARA, from 1926 (Shōwa 1st) to 1928 (Shōwa 3rd). It was divided into seven categories: History, Planning and Design, Structure, Lectures, Decorative Techniques, Facilities, and Architecture Theory, and two to three subjects from each edition were included in each volume, and the volumes were combined if requested. The specific categories for each classification are shown in the Table 5.15 below.

Table 5.15 Specific contents of the ARUSU Architecture Lecture.

Category	Classification	Authors	Biographical Notes
History 沿革篇	Japanese Architecture History 日本建築史	Tadashi SEKINO 關野貞	Professor of Engineering, Tokyo Imperial University
	Oriental architecture History 東洋建築史	Chuta ITŌ 伊東忠太	Professor of Engineering, Tokyo Imperial University
	Western architecture History 西洋建築史	Koichi SATŌ 佐藤功一	Professor, Doctor of Engineering, Waseda University
	Art and Craft History 工藝史	Tadashi SEKINO 關野貞	Professor of Engineering, Tokyo Imperial University
	Modern architecture 近代建築	Shinichiro OKADA 岡田信一郎	Professor of Engineering, Tokyo National University of Fine Arts and Music
	Modern Architecture 最近建築様式論	Kikuji ISHIMOTO 石本喜久治	Lecturer, Kyoto Imperial University
Planning and Design 計画意匠篇	Design and Decoration 意匠及裝飾論	Goichi TAKEDA 武田五一	Professor of Engineering, Kyoto Imperial University
	Design and Decoration 意匠及裝飾論	Motoyoshi 元良勳	Doctor of Engineering, Kyoto Imperial University
	Government Offices 官衙及事務所	Kiyoyoshi OGUCHI 大口清吉	Engineer, Bureau of Maintenance and Finance
	School Architecture 学校建築	Mitsugu IYODA 伊豫田貢	Engineer, Tokyo Imperial University, Lecturer
	Hospital Architecture 病院建築	Mitsugu IYODA 伊豫田貢	Engineer, Tokyo Imperial University
	Hotel Architecture ホテル建築	Horiguchi SUTEMI 堀口捨己	Engineer, The First Bank of Japan
	Auditorium, Theaters, movie theaters, auditoriums, etc. オーデトリウム (劇場、活動寫真 館、講堂等)	Takeo SATŌ 佐藤武夫	Assistant Professor of Engineering, Waseda University
	Factories and warehouses 工場及倉庫	Muraji SHIMOMOTO 下元連	Engineer, Bureau of Maintenance and Finance
	Stores 商店建築	Denji NAKAMURA 中村傳治	Executive Engineer, Yokogawa Engineering Corporation
Residential buildings 住宅建築	Koichi SATŌ 佐藤功一	Professor of Engineering, Waseda University	
Structure 構造篇	General Building Construction 一般建築構造	Yo TOKUNAGA 徳永庸	Associate Professor of Engineering, Waseda University
	Materials Science 材料力学	Tokitaro SAIDA 齊田時太郎	Part-time Engineer, Earthquake Research Institute, Tokyo Imperial University
	Reinforced Concrete Structure 鉄筋コンクリート構 造	Muraji SHIMOMOTO 下元連	Engineer, Bureau of Maintenance and Finance

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

Category	Classification	Authors	Biographical Notes
	Steel frame structure 鉄骨構造	Saito UNOSUKE 齋藤龜之助	Engineer, Bureau of Maintenance and Finance
	Earthquake-resistant building 耐震建築	Toshiro NAGATA 永田念郎	Engineer, Railway Bureau
	Fireproof Building 耐火建築	Hisasuke OZAKI 尾崎久助	Engineer, Bureau of Reconstruction
	Japanese House and Tea House 日本住宅及茶室	Shinichiro OKADA 岡田信一郎	Professor at Waseda University, Professor of Engineering at Tokyo National University of Fine Arts and Music
	Shrine and temple construction 社寺建築	Takashi KAKUNAN 角南隆	Engineer, Internal Affairs Bureau
	Building Materials 建築材料	Tatsutaro NAKAMURA 中村達太郎	Doctor of Engineering, Honorary Professor of Tokyo Imperial University
	Site and Equipment 現場及其設備	Toshiro YAMASHITA 山下壽郎	Lecturer at Tokyo Imperial University
	Specifications 仕様書	Shin YOKOYAMA 横山信	Lecturer at Tokyo Engineering School
Lectures 諸講篇	Local Architecture 郷土建築	Wajiro KON 今和次郎	Professor at Waseda University
	Architectural drawing 建築製図	Taro YAMAZAKI 山崎静太郎	Bachelor of Engineering
	Calculation method 積算法	Eiji SERIZAWA 芹澤英二	Architectural Engineer
	Architectural laws 建築法令	Toshihiko NODA 野田俊彦	Chief of the Building Division of the Metropolitan Police Department
	Gardens 庭園	Shintaro OE 大江新太郎	Chief Engineer of the Construction Bureau
	Urban Planning 都市計画	Toshiro KASAHARA 笠原敏郎	Engineering Manager, Building Department, Reconstruction Bureau
	Building Acoustics 建築音響	Takeo SATŌ 佐藤武夫	Engineering Manager
	Seismology 地震学講和	Akitsune IMAMURA 今村明恒	Doctor of Science, Professor of Tokyo Imperial University
Decorative Techniques 裝飾技術篇	Wall Painting 壁画	Mizuki KOSUGI 小杉未醒	Member of Shunyo-kai
	Architecture and Sculpture 建築と彫塑	Fumio ASAKURA 朝倉文夫	Professor at Tokyo National University of Fine Arts and Music
	Metalwork 金工	Nobuo TSUDA 津田信夫	Professor at Tokyo National University of Fine Arts and Music
	Mozaic and Stained Glass モザイク及ステインドグラス	Michi OGAWA 小川三知	Owner of Ogawa Factory
Facilities 設備篇	Furniture 家具	Sannosuke ŌSAWA 大澤三之助	Lecturer at Tokyo Fine Arts School Doctor of Engineering, Lecturer at Tokyo High School of Arts and Design
	Heating and Air Conditioning 暖房及換氣設備	Hikomichi DOI	Engineer, Bureau of Maintenance and Finance, Waseda University

Category	Classification	Authors	Biographical Notes
	Certification and Electrical Equipment 證明及電氣設備	Tadaoki YAMAMOTO 山本忠興	Profesyinsor, Doctor of Engineering, Waseda University
	Mechanical Equipment 機械設備	Ichiro OSAWA 大澤一郎	Assistant Professor at dadao University
	Water Supply and Drainage System 給水及排水設備	Shogo SAKURAI 櫻井省吾	Principal of Osawa Sakurai Office, Waseda University
Architecture Theory 建築論	Architectural Theory 建築論	Taro YAMAZAKI 山崎靜太郎	Bachelor of Engineering
	Architectural Theory 建築論	Arata ENDO 遠藤新	Engineer, Endo Arata Architects
	Architectural Theory 建築論	Toshihiko NODA 野田俊彦	Engineer, Tokyo Metropolitan Police Department
	Architectural Theory 建築論	Marihiro TAKIZAWA 瀧澤真弓	Chief Engineer of the Separatist Architectural Association
	Architectural Theory 建築論	Chochu ZAIDA 藏田周忠	Engineer, Sekine Architectural Office

The post-editorial notes of the first issue stated, “*There were seven editions: History, Planning and Design, Structure, Lectures, Decorative Techniques, Facilities, and Architecture. 2 to 3 subjects from each edition were included in each volume, and the volumes were combined if requested. The post-editorial notes of the first issue stated the following. The post-editorial notes of the first issue stated: "There is no need to repeat how meaningful the emergence of this course is for modern Japan. The fact that the number of readers has surpassed 10,000 is proof of its significance. Although 10,000 is not necessarily an astonishingly large number for an ordinary magazine or book, it is a remarkable fact that "Architecture," which had previously been regarded as a special science and not very familiar to the general public, has gained such a large readership, and it is a testament to the significance, awakening, and demands of the times.*¹⁰⁵”

In addition to the above, Arusu Publishing published other books in the same format, including “*Arusu Photo Course*”, “*Arusu Movement Course*”, “*Arusu Music Course*” and “*Arusu Reinforced Concrete Engineering Course*” in other fields.

¹⁰⁵ ARUSU. 1928. *ARUSU Architecture Lectures*. Tokyo: Arusu.

② “*Higher Architecture*” (『高等建築学』). Toshikata SANO, 1932, JOBAN SHOBO.

The publication of this series is mainly attributable to the efforts of Toshikata SANO, who was a professor at Tokyo Imperial University at the time. It is said that the references in this book were referring to the series of books on architecture in Germany. The book was published by Joban Shobo, not for sale in general bookstores but, for distribution to members. It seems that Joban Shobo issued “*Koto Kenchiku Gaku (Higher Civil Engineering)*” in response to the popularity of “*Koto Kensetsu Kogaku (Higher Civil Engineering)*” (1931-1933), which was published earlier, with the expectation that it would follow suit. The specific categories for each classification are shown in the Table 5.16 below.

SANO was not only a great expert in structural theory, he also had a deep knowledge of urban planning. He pitched the “*Proposal for the Renewal of the Education System*” and warned against the tendency of “*careless education of general education*” and “*secondary education*” as a reserve for advanced education. The purpose of this series was based on the assertion that it was essential to clarify specialization and to accumulate practical work toward that path. Therefore, it was compiled with levels that were beyond the scope of secondary schools and were intended for practical use.

It is an extensive series of books consisting of 26 volumes, describing in detail not only structures and materials, but also the latest facilities in architectural planning and design at that time. Since SANO himself did not state his intentions for publishing the book, the following is an explanation by Sadakichi IBE, who oversaw organizing the book.

*“The first issue
Sadakichi IBE*

As one of the people who participated in the plan of the professor SANO from the beginning, I would like to describe the outline of the publication plan to the extent of my knowledge, and to inquire about the extraordinary pains and efforts that the professor SANO has made, in order to make the first issue.

It was in 1922 (Taishō 11th) that the plan for the architectural series was first materialized, but it was in the older days when he was keenly aware of the necessity of the series and intended to plan it. Dr. SANO started this project, consulted with his volunteers, selected the authors, and held three or four meetings of the authors to discuss various matters.

*The first proposal was to have the bookstore manage all the business leading up to the publication plan, the second proposal was to conduct all the industry as the business of the Architectural Institute. The third plan was to plan it as his personal project and leave the publication length to bookstores”.*¹⁰⁶

The book is characterized by the separation of “*Architectural Structure*” and “*Structural Mechanics*”, and the subdivision of “*Architectural Planning*”, giving the impression that it is structured with an emphasis on structural science.

In particular, while “*ARUSU*” devoted many pages to architectural theory, decoration, and history, this book presents a precise classification of architecture by reorganizing and subdividing it.

¹⁰⁶ Toshikata SANO. 1932. *Higher Architecture*. Tokyo: Joban shobo.

Table 5.16 Specific classifications of the *Higher Architecture*.

Category	Classification	Authors
Architectural Style 建築様式	Japanese Architectural Style 日本建築様式	Minoru ŌOKA 大岡実
	Western and Eastern Architectural Style 西洋東洋建築様式	Minoru ŌOKA 大岡実
Architectural Materials 建築材料	Architectural Materials 建築材料	Seigi TANAKA 田中正義
	Mechanical properties of materials 材料の力学的性質	Hirohiko YOSHIDA 吉田宏彦
	Mechanics of Materials 材の力学	Sadakichi IBE 伊部貞吉
	Mechanics of Soil 土の力学	Fujio ISAKA 井坂富士雄
	Double-Equation General Theory 複式汎論	Kaoru ONO 小野薫
	Trusses トラス	Kaoru ONO 小野薫
	Rectangular Ramen and Arch 矩形ラーメン及アーチ	Kiyoshi MUTŌ 武藤清
Seismology / Structural Vibration Theory 地震学/構造物振動論	Seismology 地震学	Akitsune IMAMURA 今村明恒
	Structural Vibration Theory 構造物振動論	Teruo KŌNO 河野輝夫
Architectural Structure 建築構造	General Structure 一般構造	Kenichi YAGI 八木憲一
	Fireproof Structure 耐火構造	Minoru HAMADA 浜田稔 Tatsurō ISHII 石井達郎
	Brick and stone structures 煉瓦及石構造	Ken'ichi YAGI 八木憲一
	Wooden structures 木構造	Shōgo MINAMI 南省吾 Tōru MORI 森徹
	Temple and Shrine Structures 社寺建築	Takashi KAKUNAN 角南隆
	Reinforced Concrete Structure 鉄筋コンクリート構造	Heigaku TANABE 田辺平学 Hideo FUTAMI 二見秀雄
	Steel frame structure 鉄骨構造	Kamenosuke SAITŌ 斎藤亀之助 Muneka IKEBE 池部宗薫
	Earthquake-resistant and wind-resistant structures 家屋耐震並耐風構造	Riki SANO 佐野利器 Kiyoshi MUTŌ 武藤清
Architectural Construction Method 建築施工法	Contracts, Specifications, and Estimates 契約・仕様・積算	Toshirō YAMASHITA 山下寿郎
	Construction Plan and Construction Facilities 施工計画及施工設備	Yujiro KURA 久良知丑二郎

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

Category	Classification	Authors
Architectural Equipment 建築設備	Architectural Facilities 建築設備	Yoshihide NAKANISHI 中西義栄
Architectural Plan 建築計画	Planning Theory 計画原論	Kaname WATANABE 渡辺要 Kensuke NAGAKURA 長倉謙介
	Housing 住宅	Hajime SHIMIZU 清水一
	Apartment House アパートメントハウス	Hajime SHIMIZU 清水一
	Gardens 庭園	Toshirō KITAMURA 北村徳太郎
	Hotels ホテル	Toyotarou TAKAHASHI 高橋豊太郎
	Hospitals 病院	Masao TAKAMATSU 高松政雄
	Sanatorium サナトリウム	Tsuyoshi OGURA 小倉強
	Stores and department stores 商店, 百貨店	Teitaro TAKAHASHI 高橋貞太郎
	Office 事務所	Honda SABURŌ 本多三郎
	Banks 銀行	Gen NAKAYAMA 中山元晴
	Factory 工場	Teitaro TAKAHASHI 高橋貞太郎
	Markets 市場	Jirō ONO 小野二郎
	Power plant 発電所	Toyota TAKAHASHI 高橋豊太
	Warehouse 倉庫	Akira YANAGISAWA 柳沢彰
	Silos サイロ	Yoshirō TANIGUCHI 谷口吉郎
	Refrigerators 冷蔵庫	Kunihiko YAMAKOSHI 山越邦彦
	Automobile garage 自動車庫	Toichiro KUSAKABE 日下部東一郎 Kan SATO 佐藤鑑
	Hangar 格納庫	Kunihiko YAMAKOSHI 山越邦彦
	Architecture of Ministry of Communications 通信省の建築	Zhang SUGAO 張菅雄
	Passenger station 旅客駅	Kinnosuke ENDO 遠藤金之助
	Prison 刑務所	Kinichiro FUJITA 藤田金一郎
	Schools 学校	Kotaro FURUMODA 古茂田甲午郎 Yoshio TSUGE 柘植芳男
Library 図書館	Shin ESAKI 江崎伸市	

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

Category	Classification	Authors
	Museums 美術館	Masaichi KOBAYASHI 小林政一
	Museums and exhibition halls 博物館・商品陳列館	Muraji SHIMOMOTO 下元連
	Theaters, cinemas 劇場, 映画館	Ejjiro KIMURA 木村栄二郎
	Cafes and restaurants カフェー, レストラン	Takanori KOBAYASHI 小林隆徳
	Dance hall ダンスホール	Kaoru ONO 小野薫
	Club 倶楽部	Ken ICHIURA 市浦健 Yoshifusa FUNAKOSHI 船越義房
	Sports Ground 運動場	Masaichi KOBAYASHI 小林政一
	Gymnasium and Demonstration Hall 体育館及演武場	Masaichi KOBAYASHI 小林政一
	Bathhouse 浴場	Kazuyuki INOUE 井上一之
	Greenhouse 温室	Hachiro MASUDA 増田八郎
	Funeral facilities 葬祭施設	Fuji SHIMADA 島田藤
	Slaughterhouses and barns 屠場, 畜舎	Jiro ONO 小野二郎
	Garbage disposal facilities 塵芥処理場	Yuji SHICHI 志知勇次
Architectural Administration 建築行政	Architectural regulations 建築法規	Kosuke HISHIDA 菱田厚介
	City Planning 都市計画	Toshiro KASAHARA 笠原敏郎
	Housing Management 住宅経営	Kan NAKAMURA 中村寛

③ “*Waseda Architectural Lecture Notes*” (『早稲田大学建築講義録』), 1929,
Waseda University Press.

Waseda Architectural Lecture Notes was published in 1929 (Shōwa 4th), and six volumes were published at the time of its inception, as shown in the Table 5.17 below. This series of lecture notes were edited by Waseda University faculty members and graduates. It was co-authored by Tachū NAITŌ, Kōich SATŌ and Chūta ITŌ. The book is intended to deepen the public’s interest and understanding of the architectural world, which was still in the process of development following the turning point of the Great Kanto Earthquake. The supervisor, Tachū NAITŌ, stated his ambitions for the publication as follow:

“The mission of this publication is to stimulate interest in architecture in the midst of reconstruction after the Great Kanto Earthquake. We can be congratulated on the fact that our architecture has come a long way compared to that of other countries, not to mention in the field of earthquake-proof and fire-resistant structures. In addition, we must also raise the fighting spirit and understanding of the general public toward architecture, and work together to complete the reconstruction project, and eventually achieve the “architecture of a new Japan” as a brilliant culture. In this Autumn, it must be said that Waseda University Press plan to publish a series of lectures on architecture in order to release professional education in architecture and train a large number of engineers, and at the same time, to disseminate architectural expertise to the general public and increase their interest in it, is a very timely plan. I, as one of the contributors to the publication of this book, cannot help but feel grateful for its content, which is in line with the educational objectives mentioned above and can be provided not only to professional learners but also to a wide range of people with a good education.”¹⁰⁷

¹⁰⁷ Tachū NAITŌ. 1929. “On the occasion of the first publication of Waseda University’s architectural lecture” *Waseda University Architecture Lecture First Issue* (1).

The six features of the *Waseda Architectural Lecture Notes* are shown below:

(1) Ease and Simplicity of Lecture

The purpose of this lecture is to make learning as convenient as possible for the many beginning students. This lecture should not be made to seem too high class or too wordy, which would discourage students from taking the time to study. The first feature of this lecture is that it should be simple, easy to understand, to the point, and valuable in practice.

(2) Coverage of All Courses

All the courses related to architecture are included in this lecture. The second feature of this course is that it contains many subjects that were not previously available in this kind of publication, as well as several special lectures, making it an encyclopedia of architecture.

(3) The lecturers are a top authority in the field of architecture.

This series of lectures has asked all the lecturers from the architecture department of our alma mater, Waseda University, as well as leading experts in the field to share their specialities with them.

(4) A novel editing method

This book revolutionises the traditional lecture editing method, which tends to be mundane and tasteless, and has been edited with rich taste. In addition, the complete and incomplete editing method, based on the experience and technology of the publishing department for 40 years, is leading the world.

(5) Qualifications of Non-Waseda Students

If you are a member of this group, you can be called an *off-campus* student of Waseda University and receive various privileges and benefits. The background of Waseda University, how strong and confidence it will give you in the real world. The lectures hope students will join Waseda University and take advantage of these benefits.

(6) A short period of time and low cost of study

The world is in the age of speed, and the study period is also in the age of high speed. The times demand to achieve the maximum effect in a concise period of time. It is a fantastic plan to be able to finish all the lectures of architecture in just one year. In addition, the low cost of tuition, can only be achieved by a service project such as the publication of this book, which is based on the original purpose of education.

Table 5.17 Specific classifications of the *Waseda Architectural Lecture Notes*.

Category	Classification	Authors
Overview and History 概論及び歴史	Architecture Outline 建築汎論	Kōichi SATŌ 佐藤功一
	Orient Architectural History Outline 東洋建築史	Chūta ITŌ 伊東忠太
	Western Countries Architectural History (1) Western Countries Architectural History (2) 西洋建築史	Kōichi SATŌ 佐藤功一 Mamoru NAKAMURA 中村鎮
	Japanese Architectural History 日本建築史	Yasushi TANABE 田邊泰
	Configuration Art Argument 構成美論	Wajirō KON 今和次郎
	Modern Architecture Outline 近代建築概論	Kenji IMAI 今井兼次
	Craft Art History 工藝美術史	Tari MORIGUCHI 森口多里
	Decoration method 裝飾法	Shin'ichirō OKADA 岡田信一郎
Material and Construction 材料及び構造	Architectural Materials 建築材料	Kyōji YOSHIDA 吉田 享二 Tsutomu SAKAI 酒井勉
	Structural Dynamics 構造力学	Ryūzō SUZUKI 鈴木隆藏 Masao FUKUSHIMA 福島雅男 Isamu ISHII 石井勇
	Steel Frame Construction 鉄骨構造	Tachū NAITŌ 内藤多仲 Sei KAWAI 河合清
	Reinforced Concrete Construction 鉄筋コンクリート	Akira UENAMI 上浪朗
	Earthquake Resisting Construction 耐震計算	Tachū NAITŌ 内藤多仲
	Industrial Mathematics 工業数学	Ichirō ŌSAWA 大澤一郎
	Japanese Home Tectonics 日本家屋構造	Masaharu FURUTSUKA 古塚正治
	General Architecture Structural Methods 一般構造法	Yō TOKUNAGA 徳永庸
Implementation Plan 実施計画	Surveying 測量	Shikasaburō FUJII 藤井鹿三郎
	Regulations and Application 法規及び出願手続き	Takehiko MATSUMOTO 松本猛彦
	Specification 仕様書	Buichi KIMURA 木村武一
	Integration 積算法	Yuichi INO 猪野勇一
	Contract Plan and Equipment 施工計画及設備	Ryozo BABA 馬場良三

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

Category	Classification	Authors
Equipment 諸設備	Lamp Illumination 電灯照明及照明法	Noriyuki KADOKURA 門倉則之
	Architecture Electrical Code 建築電気工学	Shigeya ICHIKAWA 市川繁彌
	Mechanical Equipment/Equipment for Building 機械設備	Ichirō ŌSAWA 大澤一郎
	Sanitation Equipment 衛生設備	Ichirō ŌSAWA 大澤一郎
	Heating and cooling equipment 暖房冷房設備	Tokimasa DOI 土居寛通
	Ventilation equipment 換氣設備	Shōgo SAKURAI 櫻井省吾
Drawing 製図	Drafting Method 製図法	Kōichirō KIMURA 木村幸一郎 Saburō SOSHIRODA 十代田三郎
	Perspective Drawing and The Shadow Method 透視図法及陰影図法	Wajirō KON 今和次郎
Architecture Plan 建築計畫	Residential Building 住宅	Setsurō YAMAMOTO 山本拙郎
	Apartment House アパートメントハウス	Yoshitaro TAKEUCHI 竹内芳太郎
	Museum 美術館	Kenji IMAI 今井兼次
	Library 図書館	Kenji IMAI 今井兼次
	School 学校	Yatarō MINE 峰彌太郎
	Shrines and Temples 社寺	Kōnosuke SASAKI 佐々木孝之助
	Church 教會	Mamoru NAKAMURA 中村鎮
	Memorial building 記念建造物	Kenji IMAI 今井兼次 Yasushi TANABE 田邊泰
	Store 商店	Kyōji YOSHIDA 吉田 享二 Saburō SOSHIRODA 十代田三郎
	The Department Store 百貨店	Takeo SATŌ 佐藤武夫
	Bank 銀行	Takeo YASUI 安井武雄
	Factory Building 工場	Tachū NAITŌ 内藤多仲
	Warehouse 倉庫	Katsunari KITAMURA 北村勝成
	Office Building 貸事務所	Yoshikiyo SATŌ 佐藤良清
	Hospital Building 病院	Gennosuke ŌSAWA 大澤源之助
Theatre and Cinema 劇場及映画館	Takeo SATŌ 佐藤武夫 Katsumi NAKAYAMA	

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

Category	Classification	Authors
		中山克巳
	Clubs 倶楽部	Takeo YASUI 安井武雄
	Hotel and Restaurant ホテル及レストラン	Kyōji YOSHIDA 吉田 享二
	Automobil Garage 自動車庫	Yoshi NIWA 丹羽美
Special Lecture (Appendix) 特別講義	Architectural durability 建築の耐久性	Kyōji YOSHIDA 吉田 享二
	Urban Planning 都市計画	Kyōji YOSHIDA 吉田 享二 Gisaburo SHIRATORI 白鳥義三郎
	Architectural Acoustics 建築音響	Takeo SATŌ 佐藤武夫
	Sun Light and Lighting 日照及採光	Kōichirō KIMURA 木村幸一郎
	Garden 庭園	Takuma TONO 戸野琢磨
	Economic Problems of Building 建築の経済問題	Tōgo MURANO 村野藤吾
	Tearoom 茶室	Kōichirō KIMURA 木村幸一郎

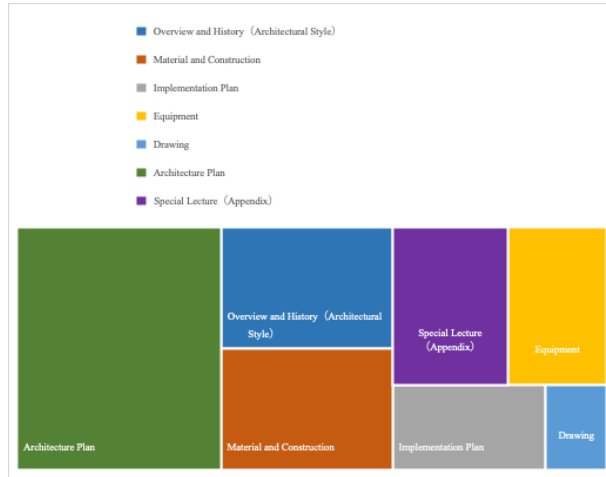


Figure 5.2 Subject proportion of the *Waseda Architectural Lecture Notes*.

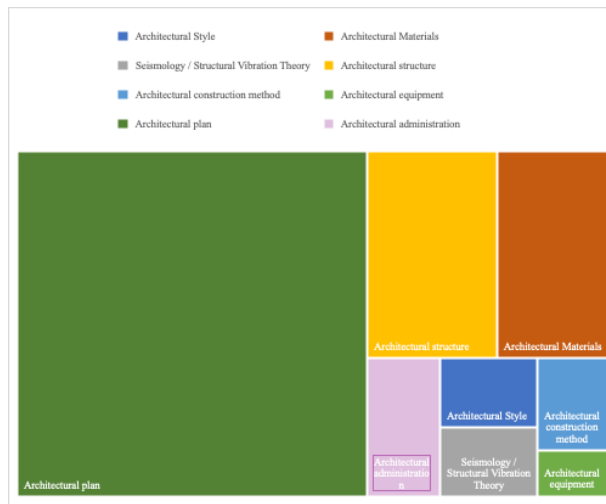


Figure 5.3 Subject proportion of the *Higher Architecture*.

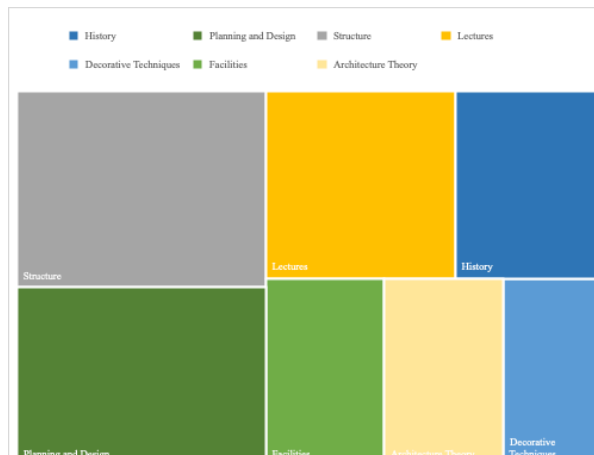


Figure 5.4 Subject proportion of the *ARUSU Architecture Lectures*.

Figure 5.2, 5.3 and 5.4 shows a comparison of publications covering the three architectural series books. In the “*ARUSU Architecture Lecture*” category, “*History*” accounted for 20.4% of the total, and the content covered not only Japanese, Oriental and Western history, but also the architectural theory and the history of craftsmanship, while other areas were covered on average. In “*Higher Architecture*”, the emphasis is on architectural planning, which accounts for 47.4% of the total, and the content is heavily geared toward engineers, with structural and material construction also accounting for a significant portion.

In “*Waseda Architectural Lecture Notes*”, a wide range of contents are efficiently summarized and drafting methods are also mentioned, so it can be said that it was intended to be read by students rather than engineers. Incidentally, it can be said that the book was designed for educational purposes, since it is written that *the spirit of the book continues to live on in the various correspondence courses after the war*. By comparison, it is found that the *Waseda Architectural Lecture Notes* are more balanced in terms of subject setting, without bias, and can be said to be compiled in accordance with a textbook. And the important is that the *Waseda Architectural Lecture Notes* is the only series that meets the criteria of the standard textbook of the Architectural Institute of Japan.

5.4 External Comparison: Architectural Book Written and Distributed by the Same Lecturer at Waseda University

The first significant category in the *Waseda Architectural Lecture Notes* is building construction, and the second major category is building equipment. In the previous section, the history of architecture in the third category was examined through internal comparisons within Waseda University. In this section, a comparison of construction and equipment is reviewed through externally published books on architecture. The orange block of figure 5.5 shows the main comparisons in this subsection.

History	Material and Construction	Equipment and Construction	Drawing	Implementation and Regulations	Architecture Plan	Special Lecture
				<u>Internal</u> Waseda Architectural Education		
	Material and Construction	Equipment and Construction	Drawing	Implementation Plan	Architecture Plan	Others
Overview and History				<u>The Waseda Architectural Lecture Notes</u>		
Others	Material and Construction	Equipment and Construction				
			<u>Commercial Textbooks</u> for Industrial Education			

Figure 5.5 The external comparison¹⁰⁸.

According to the temporal survey of the publications of standard textbooks of the Shōwa Period in MATSUNAGA’s doctoral dissertation, the author conducted a summary as shown in Table 5.18, with the darker sections focusing on the *Newest Architectural Structures* by Tachū NAITŌ and the *Machinery and Apparatus Equipment* by Ichirō ŌSAWA, not only were the committee members of this program but likewise were the editors of the *Waseda Architectural Lecture Notes*.

¹⁰⁸ Made by the author based on Chapter 4.

Table 5.18 The temporal survey of the publications of standard textbooks in the Shōwa Period¹⁰⁹.

Books	Authors	Publishers	Publication Year
<i>Electrical and. Miscellaneous</i> 『電気及雑』	Iku-shi FUKAZAWA 深沢幾市	Yoshida Public Works Publications Department	Shōwa 5 th (1930)
<i>Building Structures</i> 『建築構造学』	Tatsuumi ŌKAWARA 大河原達海 Gisaburō MURAYAMA 村山儀三郎	Reformed Engineering Company (Osaka)	Shōwa 6 th (1931)
<i>A model of Western style building structure</i> 『洋式建築構造雛形』	Tarō SHINOHARA 篠原太郎	Taiyosha Bookstore	Shōwa 6 th (1931)
<i>Architectural Style</i> 『建築様式』	Jitsu ŌOKA 大岡実	The Japan Society of Industrial Engineers (Tokyo)	Shōwa 7 th (1932)
<i>New Building Structures</i> 『最新建築構造学』	Tachū NAITŌ 内藤多仲	Waseda University Press	Shōwa 7 th (1932)
<i>Steel Structure</i> 『鉄骨構造』	Jinkichi HORIGUCHI 堀口甚吉	Central Engineering Society (Tokyo)	Shōwa 7 th (1932)
<i>Structural Mechanics</i> 『建築構造力学』	Naofumi MIURA 三浦尚史	Yodoya Bookstore Publishing Department (Osaka)	Shōwa 7 th (1932)
<i>Architectural Planning</i> 『建築計画』	Yoshio OKUDA 奥田芳男	Yoshida Public Works Publications Department	Shōwa 7 th (1932)
<i>Practical Building Structures, Volume 1</i> 『実用建築構造 上巻』	Tomishige SHŌJI 庄司富重	Suzuki Bookstore (Tokyo)	Shōwa 7 th (1932)
<i>Practical Western Style Building Structures</i> 『実用洋風建築構造学』	Matsuo MIZOGUCHI 溝口松雄	Suharaya Bookstore (Tokyo)	Shōwa 7 th (1932)
<i>Building Machinery and Equipment</i> 『建築機械設備』	Ichirō ŌSAWA 大澤一郎 Shōgo SAKURAI 桜井省吾 Masuo YAMAGIWA 山際満寿夫	Maruzen Co., Ltd.	Shōwa 7 th (1932)
<i>New Ladder of Building Science</i> 『新しき建築学階梯、巻の 式』	Tatsutarō NAKAMURA 中村達太郎	Maruzen Co., Ltd.	Shōwa 7 th (1932)
<i>Building Structure Mechanics</i> 『建築構造力学』	Ayumi KIYOSHI 步藤 清 Tsuji SEIJI 辻井清二	The Japan Society of Industrial Engineers (Tokyo)	Shōwa 7 th (1932)
<i>New Building Construction Methods</i> 『最新建築施工法』	Shirō HORI 堀 紫朗	Maruzen Co., Ltd.	Shōwa 8 th (1933)

¹⁰⁹ Made by the author based on “A Study on the Establishment of Middle Level Education on Architecture in Japan: Through the Activities by the Ministry of Education and Architectural Institute of Japan, the Later Taishō-era and the Early Shōwa-era” by MATSUNAGA.

Books	Authors	Publishers	Publication Year
<i>Reinforced Concrete Structures</i> 『鉄筋コンクリート構造』	Tarō SHINOHARA 篠原太郎	Yodoya Bookstore Publishing Department (Osaka)	Shōwa 8 th (1933)
<i>Building Construction Methods</i> 『建築施工法』	Masakazu KOBAYASHI 小林政一 Kaoru AMOU 天羽馨	Yoshida Public Works Publications Department	Shōwa 8 th (1933)
<i>Structural Mechanics</i> 『構造力学』	Jinkichi HORIGUCHI 堀口甚吉	Yoshida Public Works Publications Department	Shōwa 8 th (1933)
<i>Practical Building Materials</i> 『実用建築材料』	Teruo KINOYAMA 木野山照雄	Industrial Bookstore (Osaka)	Shōwa 13 th (1938)
<i>New Western Style Building Structure</i> 『最新洋風建築構造』	Tatsuumi ŌKAWARA 大河原達海 Gisaburō MURAYAMA 山口儀三郎	Railway Library (Tokyo)	Shōwa 13 th (1938)
<i>Knowledge of Reinforced Steel Structure</i> 『鉄筋鉄骨建築構造の知識』	Motorō ITŌ 伊東五郎	Civil Company (Tokyo)	Shōwa 13 th (1938)
<i>Deflection Angle Method</i> 『撓角法』	Kaoru ONO 小野薫	Maruzen Co., Ltd.	Shōwa 14 th (1939)
<i>General Theory of Statically Indeterminate Rahmen</i> 『不静定ラーメン論』	Kaoru ONO 小野薫	Maruzen Co., Ltd.	Shōwa 14 th (1939)

The author compares the *Building Machinery and Equipment* in the greyed-out section with the subjects related to *Building Machinery and Equipment* in the *Waseda Architectural Lecture Notes*, followed by a section on *New Building Structures*, and finally, a separate analysis of another subject, *Building Materials*.

First, the equipment section which compared in the table 5.19; the left side is the equipment-related contents of the Shōwa 17th *Waseda Architectural Lecture Notes*, the right side is the *Commercial Machinery and apparatus equipment*. The grey part is the same for both, the blue part is unique to the *Lecture Notes*, and the green part is special to the *Building Machinery and Equipment*, the light grey is the same for both.

Table 5.19 Equipment section-1 comparison between the *Waseda Architectural Lecture Notes* and Commercial Machinery and apparatus equipment¹¹⁰.

<i>Waseda Architectural Lecture Notes</i> 講義録-『建築機械設備』(昭和17年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和17年)	
Chapter 1: General 第1章 総論	1.1 Machine and Equipment Specifications and Their Ranges 1.1 機械設備の意義並に其範圍に就て	Chapter 1: General 一 総論	1. The Purpose and Scope of Machinery and Equipment 一. 機械設備の意義並に其範圍に就て
	1.2 Design of the Main Body of the Building and How It Relates to the Mechanical Equipment 1.2 建築本體の設計と各種機械設備との關係に就て		2. The Relationship Between the Design of the Main Body of the Building and the Various Types of Mechanical Equipment 二. 建築本體の設計と各種機械設備との關係に就て
	1.3 Rooms Required for Mechanical Equipment and Their Required Floor Space 1.3 機械設備に必要な室及びその所要床面積		3. Conversion of Basic Units and Their Notations 三. 基本單位及其の記號竝に換算
	1.4 Various Points to Be Considered for Structural Mechanical Equipment 1.4 構造上機械設備を考慮せらるべき諸點		4. Physical Properties of Industrial Materials 四. 工業材料の物理的性質
	1.5 Power Equipment in Buildings, Their Types and Capacities 1.5 建築物の動力設備、其種類並に設備容量		
	1.6 Problems of Construction and Maintenance Costs of Machinery and Equipment 1.6 機械設備の工費と經常費の問題		
Chapter 2: The Prime Mover 第2章 原動機	2.1 Types, Applications and Their Units of Prime Mover 2.1 原動機の種類、應用及其單位	Chapter 2: Engine 二 原動機	1. Energy and Prime Movers 一. エネルギーと原動機
	2.2 Steam Can, Steamer and Their Generating Equipment 2.2 汽罐、蒸汽及び其發生装置		2. Steam Boiler 二. 蒸汽罐
	2.3 Various Types of Ancillary Equipment for Cans in General 2.3 汽罐の各種附屬設備一般		3. Steam Engine Room 三. 蒸汽機關
	2.4 Steaming Machine Guards, Reciprocating Steaming Machine Guards 2.4 蒸汽機關、往復蒸汽機關		4. Internal Combustion Engines 四. 内燃機關
	2.5 Steaming Turpin 2.5 蒸汽ターピン		
	2.6 Internal Combustion Engines 2.6 内燃機關		
	2.7 Fuels for Internal Combustion		

¹¹⁰ Made by the author based on the *Waseda Architectural Lecture Notes Shōwa 17th* and *Building Machinery and Equipment*.

<i>Waseda Architectural Lecture Notes</i> 講義録-『建築機械設備』(昭和17年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和17年)	
	Machinery, Liquid and Chiseled 2.7 内燃機用燃料、液體及氣體燃料 2.8 Hydraulic Machine, Waterwheel or Water Cutter Pin 2.8 水力機關、水車又は水カタービン 2.9 Electrical Machinery---Electric Motors or Motors 2.9 電氣機關—電動機又はモーター 2.10 Control Rules 2.10 各種取締規則		5. Electric Motor 五. 電動機 6. Air Conditioner 六. 空氣壓縮機
Chapter 3: Elevators and Escalators 第3章 昇降機	3.1 Development and Its Types 3.1 發達及其種類 3.2 Description and Power Requirements for Lifts and Escalators 3.2 昇降機の理論及所要動力 3.3 Design of Lift Corridors 3.3 昇降機通路の設計 3.4 Details of Each Part of the Lift 3.4 昇降機各部詳細 3.5 Lift Operation 3.5 昇降機の運轉 3.6 Special Lifting Machines 3.6 特殊昇降機 3.7 Regulations for the Control of Lifts and Escalators 3.7 昇降機取締規則	Chapter 10: Lifting and Transport Equipment 十 昇降及び輸送装置	1. Lift 一. 昇降機 2. Escalators and Slope Lifters 二. エスカレーター及斜坂昇降機 3. Transport (Conveyors) 三. 輸送機(コンベヤー)
Chapter 4: Pumping Machines 第4章 揚水機	4.1 The Principle of the Pump and Its Types 4.1 ポンプの原理並に其種類 4.2 Reciprocating Pumps 4.2 往復ポンプ 4.3 Millstone Pump 4.3 渦巻ポンプ 4.4 Pump Efficiency and Power Requirements 4.4 ポンプの効率及所要馬力 4.5 Experiment of Millstone Pump 4.5 渦巻ポンプの試験 4.6 Electric Pumps for Domestic Use 4.6 家庭用電動ポンプ 4.7 Deep Pumps 4.7 深井戸 4.8 Pumps for Sewage 4.8 汚水用ポンプ 4.9 Layout, Installation and Dandling of the pump 4.9 ポンプの配置並据付及取扱方法等		
	5.1 Principles of Refrigeration and Their Applications		

<i>Waseda Architectural Lecture Notes</i> 講義録-『建築機械設備』(昭和17年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和17年)	
Chapter 5: Refrigeration Machines and Equipment 第5章 冷凍機及冷凍設備	5.1 冷凍の原理と其應用		
	5.2 Refrigerants and Chillers 5.2 冷媒と冷凍機		
	5.3 Main Refrigerants 5.3 主な為冷媒		
	5.4 Exclusive Chillers and Their Principles 5.4 壓縮冷凍機とその原理		
	5.5 Ammonia Excessive Compression Chiller 5.5 アンモニア壓縮冷凍機		
	5.6 Turbo Chillers 5.6 ターボ冷凍機		
	5.7 Steam Injection Chillers 5.7 蒸気噴射冷凍機		
	5.8 Refrigeration and Ice Making Equipment and Freezing Units 5.8 冷房冷蔵及製氷設備と冷凍装置		
	5.9 Freezer Construction Methods 5.9 冷凍庫の構造方法		
	Chapter 6: Kitchen and Cooking Facilities 第6章 厨房,調理設備		
6.2 Kitchen Utensils 6.2 厨房器具			
6.3 Design of the Kitchen 6.3 厨房の設計			
Chapter 7: Disinfection and Antiseptic 第7章 消毒及防毒	7.1 Types and Methods of Disinfection and Poison Control Equipment 7.1 消毒及防毒設備の種類及方法	Chapter 11: Miscellaneous Sections on Machinery and Appliances and Equipment 十一 機械及び 器具設備雜項	5. Disinfection Equipment 五 消毒設備
	7.2 Medical Disinfection Equipment 7.2 醫療消毒設備		
	7.3 Tableware and Food Disinfection Equipment 7.3 食器及食品消毒設備		
	7.4 Rubbish Disinfection Equipment 7.4 屑物消毒装置		
	7.5 Train Disinfection Equipment 7.5 列車消毒装置		
	7.6 Water Supply Disinfection Equipment 7.6 上水道消毒装置		
	7.7 Disinfection of Polluted Water and Waste Water 7.7 汚水及排水の消毒		
	7.8 Air Defense and Poisonous Gas Defense 7.8 防空と毒瓦斯防禦		
Chapter 8: The Brooming Blast Furnace 第8章 燒却爐	8.1 Types of Firing Furnaces and Firing Furnaces 8.1 燒却爐の種類と燒却爐		2. Storage of Dust and Waste 二. 塵芥燒却裝置
	8.2 Dust Dischargers 8.2 塵芥の排出器		

<i>Waseda Architectural Lecture Notes</i> 講義録-『建築機械設備』(昭和17年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和17年)	
	8.3 Structure of the Incineration Furnace 8.3 焼却爐の構造 8.4 Building Dust-Soaked Blast Furnace 8.4 建物塵芥焼却爐 8.5 Hospital Poultry-Soaping Furnace 8.5 病院用汚物焼却爐 8.6 Control Rules 8.6 各種取締規則		1. Vacuum Cleaning Equipment 一 真空掃除装置 3. Washing and Drying Facilities 三. 洗濯及乾燥設備
Chapter 9: Gas 第9章 瓦斯	9.1 Types of Gas and Their Characteristics 9.1 瓦斯の種類及其の特色	Chapter 9: Gas Facilities 九 瓦斯設備	1. Types and Methods of Development of Gas 一. 瓦斯の種類及び發生法
	9.2 Development of Various Types of Gas Production and Properties of Co-components 9.2 各種瓦斯の製造發生及共成分性質		2. Coal Gas Production Process 二. 石炭瓦斯製造法
	9.3 Gas Distribution Methods 9.3 瓦斯配給法		3. Methods on the Supply of Gas 三. 瓦斯供給法
	9.4 Gas Meters 9.4 瓦斯メーター		4. Gas Piping Methods 四. 瓦斯配管法
	9.5 Burning of Gas and Gas Appliances 9.5 瓦斯の燃焼及瓦斯器具		5. Uses and Appliances of Gas Fuel 五. 瓦斯燃料の用途と其の器具
	9.6 Gas Heating 9.6 瓦斯暖房		
	9.7 Gas Water Heaters 9.7 瓦斯湯沸器		
	9.8 Gas Refrigeration and Air-Conditioning Equipment 9.8 瓦斯冷蔵及冷房装置		
	9.9 Gas Consumption of Various Gas Appliances and Equipment 9.9 各種瓦斯器具及装置の瓦斯消費量		
	9.10 Gas Regulations and Rules of Practice 9.10 瓦斯取締規則及施工規則		

• The grey part is the same for both, the blue part is unique to the *Lecture Notes*, and the green part is special to the *Building Machinery and Equipment*.

Table 5.20 Equipment section-2 comparison between the *Waseda Architectural Lecture Notes* and Commercial Machinery and apparatus equipment¹¹¹.

<i>Waseda Architectural Lecture Notes</i> 講義録-『空気調整法』(昭和17年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和17年)		
Chapter 1: General 第1章 総論	1.1 Air Conditioning Purpose and Range 1.1 空気調整の目的と範囲	Chapter 3: Principles of Air Conditioning and Chimney Equipment 三 空気調整の原理と換気設備	1. Composition and Properties of Air 一. 空気の成分及び性質	
	1.2 Fundamentals 1.2 基礎事項		2. Principles of Air-Conditioning 二. 空気調整の原理	
Chapter 2: Air Pollution and the Purification Process 第2章 空気の汚染と清浄法	2.1 Causes of Air Pollution 2.1 空気汚染の原因			
	2.2 Polluted Air and Human Bodies 2.2 汚染空気と人體			
	2.3 Types and Properties of Suspended Solids in Air 2.3 空気中の浮遊物の種類及性質			
	2.4 Methods of Determining the Dust Content 2.4 塵埃量の決定法		6. Local Conversion Methods 六. 局所換気法	
	2.5 Air Pollution Prevention and Cleaning Methods 2.5 空気汚染の防止と清浄法		7. Design and Construction Guidelines for Conversion Facilities 七. 換気設備設計及び施工要項	
Chapter 3: The Conversion Methods 第3章 換気法	3.1 Theory of Conversion 3.1 換気の理論		3. Purpose and Methods of Conversion 三. 換気の目的及び方法	
	3.2 Conversion Times 3.2 換気回数		4. Natural Conversion Methods 四. 自然換気法	
	3.3 Natural Conversion Methods 3.3 自然換気法		5. Mechanical Conversion Methods 五. 機械式換気法	
	3.4 Mechanical Conversion Methods 3.4 機械式換気法			
Chapter 4: Heating Methods 第4章 暖房法	4.1 Meaning and Types of Heating 4.1 暖房の意義及種類	Chapter 4: Heating Equipment 四 暖房設備	1. Calculation of Heat Loss 一. 損失熱量計算	
			2. Fireplace (Coal, Oil, Gas, Electricity) 二. 暖爐(石炭、石油、瓦斯、電氣)	
			3. Heat Sink (for Hot Water and Steam) 三. 放熱器(温水用及び蒸気用)	
	4.2 Local Heating Methods 4.2 局所暖房法		4. Heating Steamers (for Steam and Hot Water) 四. 暖房用汽罐(蒸気用及び温水用)	
4.3 Central Heating Methods 4.3 中央暖房法	9. Automatic Adjustment of Temperature and Humidity 九. 温湿度の自動調法			
		10. Regulations for the Control of Hot and Cold Storage Units and Steam Canner Rooms 十. 保温装置及び汽罐室の取締		

¹¹¹ Made by the author based on the *Waseda Architectural Lecture Notes Shōwa 17th* and *Building Machinery and Equipment*.

<i>Waseda Architectural Lecture Notes</i> 講義録-『空気調整法』(昭和 17 年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和 17 年)	
	4.4 Steam Heating Methods 4.4 蒸気暖房法		規則
	4.5 Hot Water Heating Methods 4.5 温水暖房法		5. Steam Heating Methods 五. 蒸気暖房法
	4.6 Warm Air Heating Methods 4.6 温気暖房法		6. Hot Water Heating Methods 六. 温水暖房法
	4.7 Radiant Heating Methods 4.7 輻射暖房法		7. Warm Air Heating Methods 七. 温気暖房法
	4.7 Radiant Heating Methods 4.7 輻射暖房法		8. Radiant Heating Methods 八. 輻射暖房法
Chapter 5: The Cooling Methods 第 5 章 冷房法	5.1 General Description 5.1 概説	Chapter 5: Cooling and Refrigeration Equipment 五 冷房及び冷 凍設備	1. Principle of Air-Conditioning and General Equipment 一. 冷房の原理と装置一般
	5.2 Types of Cooling 5.2 冷房の種類		2. Cooling Load Calculation 二. 冷房負荷計算
3. Central Air Conditioning Installation 三. 中央冷房装置			
4. Small Air-Conditioning Units 四. 小型冷房機			
5. Excessive Compression Cooling Machine 五. 壓縮冷却機			
6. Cold Storage 六. 冷蔵庫			
7. Home Cooling Machines and Ice Chests 七. 家庭用冷却機竝に氷庫			
Chapter 6: Calculation of the Heat Input and Output of Buildings 第 6 章 建物の熱(受熱 量及放熱量)計算法	6.1 Outdoor Temperature 6.1 屋外温度		
	6.2 Indoor Temperature 6.2 室内温度		
	6.3 Indoor Humidity 6.3 室内湿度		
	6.4 Methods for Calculating the Amount of Ripple Loss in Buildings (Heating Load) 6.4 建築物の損失熱量計算法(暖房 負荷)		
	6.5 Corrections for Calculating the Loss of Ripeness 6.5 損失熱量の計算補正		
	6.6 Methods for Calculating the Heat Received by a Building (Cooling Load) 6.6 建築物の受熱量計算法(冷房負 荷)		
Chapter 7: Ventilation Channels 第 7 章 通風路	7.1 Ventilation Channels 7.1 通風路		
	7.2 Velocity of Air in the Airway 7.2 風道内の空気の流速		
	7.3 Frictional Resistance of the Windway 7.3 風道の摩擦抵抗		
	7.4 Methods of Determining the		

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

<i>Waseda Architectural Lecture Notes</i> 講義録-『空気調整法』(昭和17年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和17年)	
	Windway 7.4 風道の決定法		
	7.5 Ventilation Channel Construction 7.5 通風路の構造		
	7.6 Ventilation Channels and Noise 7.6 通風路と騒音		
Chapter 8: Piping and Materials 第8章 配管と材料	8.1 Piping 8.1 配管		
	8.2 Names of the Pipework Parts 8.2 配管各部の名稱		
	8.3 Plumbing Fixtures 8.3 配管用器具		
	8.4 Piping Materials 8.4 配管用材料		
Chapter 9: Air-Conditioning Equipment 第9章 空気調整用機器	9.1 Conversion Machines 9.1 換氣機		
	9.2 Air Filtration 9.2 空氣濾過器		
	9.3 Tangled Water Can and Steam Can 9.3 溫水罐及汽罐		
	9.4 Burning Machine 9.4 燃燒機		
	9.5 Heaters and Coolers 9.5 加熱器及冷却器		
	9.6 Cylinder 9.6 円筒		
	9.7 Refrigeration Equipment 9.7 冷凍機		
	9.8 Air Conditioning Unit 9.8 空氣調整器		
	9.9 Temperature Control and Humidity Regulator 9.9 調溫及調濕器		

・ The grey part is the same for both, the blue part is unique to the *Lecture Notes*, and the green part is special to the *Building Machinery and Equipment*.

Table 5.21 Equipment section-3 comparison between the *Waseda Architectural Lecture Notes* and Commercial Machinery and apparatus equipment¹¹².

<i>Waseda Architectural Lecture Notes</i> 講義録-『衛生設備』(昭和17年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和17年)	
Chapter 1: Water Supply Systems and Water Consumption 第一章 給水設備と水の使用量	1. Architecture and Water 1. 建築と水	Chapter 6: Building Health and Safety Equipment 六 建築衛生設備	1. Water Supply 一 用水
	2. Wells and Water Supply 2. 井戸と水道		
	3. Indoor Plumbing 3. 屋内配管		
	4. Water Consumption 4. 水道使用量		
	5. Amount of Water Used and Its Use 5. 使用水量と其の用途		
	6. Determination of the Amount of Water Used 6. 使用水量の決定		
	7. Water Supply Rate 7. 給水率		
Chapter 2: Wells and Water Sources 第二章 井戸及水源	8. Type of Well 8. 井戸の種類		
	9. Hydraulics of Wells 9. 井戸の水理学		
	10. Chiseling 10. 鑿井		
	Chapter 3: Properties of Water and Their Tests 第三章 水の性質及其の試験		
12. Type of Water 12. 水の種類			
13. Solubility of Water 13. 水の溶解力			
14. Gas Absorbing Power of Water 14. 水の瓦斯吸収力			
15. Chemical Composition of Water 15. 水の化学的成分			
16. Water Quality Test 16. 水質試験			
Chapter 4: Hydraulics Requirements 第四章 水力学要項	17. Excess water pressure rules and units 17. 水圧に関する法則及單位		
	18. Frictional Water Head 18. 摩擦水頭		
	19. Formulas for Flow Velocity, Head and Volume 19. 流速,水頭及水量の公式		
	Chapter 5: Pumps (Pumping Machines) 第五章 ポンプ(揚水機)		
21. Reciprocating Gravity Pump 21. 往復重力ポンプ			
22. Theory of Reciprocating Gravity			

¹¹² Made by the author based on the *Waseda Architectural Lecture Notes Shōwa 17th* and *Building Machinery and Equipment*.

<i>Waseda Architectural Lecture Notes</i> 講義録-『衛生設備』(昭和17年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和17年)	
	Pumps 22. 往復重力ポンプの理論 23. Rotary Pumps 23. 回転式ポンプ 24. Air Lift 24. 空気揚水機(エアーリフト) 25. Air Pumping Machine Design 25. 空気揚水機的设计 26. Hypural Pump (Fugal Pump) 26. ヒューガルポンプ(Fugal Pump) 27. Total Pumping Capacity and Power Required 27. 全揚水程及所要馬力 29. Domestic Pumps 29. 家庭用ポンプ 30. General Water Supply Pumps 30. 一般給水ポンプ		
Chapter 6: Clean Water Methods 第六章 浄水法	31. On the Different Methods of Cleaning Water 31. 種々の浄水法に就いて		2. Clean Water Methods 二 浄水法
	32. Principle of the Filtration Methods 32. 濾過法の原理		
	33. Filtration Rate and Filtration Check 33. 濾過速度及濾過率		
	34. Rapid Filtration Machine 34. 急速濾過機		
	35. Water Filter for Residential Use 35. 住宅用濾水器		
	36. Water Softening Methods 36. 軟水化法		
	37. Deficiency Methods 37. 除缺法		
	38. Disinfection and Sterilization Methods 38. 消毒及殺菌法		
Chapter 7: Water Supply Facilities by Means of Waterworks 第七章 水道に依る給水設備	39. Design Guidelines 39. 設計要項		
	40. Water Supply Regulations 40. 水道供給規定		
	41. Water Flotation Fee 41. 水道料金		
	42. Water Distribution Methods 42. 配水法		
	43. Water Supply Installation 43. 水道引込工事		
	44. Rules for the Construction 44. 流末工事施工規定		
Chapter 8: Water Supply Piping System 第八章 給水配管設備	45. Measuring Instruments 45. 計量器		
	46. On the Various Water Supply Methods 46. 各種給水法に就て		3. Water Supply and Plumbing Methods 三 給水法及び配管法

<i>Waseda Architectural Lecture Notes</i> 講義録-『衛生設備』(昭和17年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和17年)	
	47. Elevated Water Tank Type Equipment 47. 高架水槽式の装置		
	48. Water Supply Unit to the Elevated Water Tank 48. 高架水槽への給水装置		
	49. The Size of the Elevated Water Tank 49. 高架水槽の大きさ		
	50. Principle of the Pressure Tank 50. 壓力水槽の原理		
	51. The Relationship between the Amount of Water Supply and the Limiting 51. 給水量と限界壓力の關係		
	52. The Relationship between the Amount of Water Discharged and the Pressure Drop 52. 排出水量と降下壓力との關係		
	53. Lowering Pressure and Its Limit 53. 下降壓力と其の限度		
	54. How to Determine the Amount of Hydraulic Pressure 54. 壓力水壓の大きさ定め方		
	55. Excess Air Chillers 55. 壓縮空氣機		
	56. Size of Apparatus Water Pipe 56. 器具給水管の大きさ		
Chapter 9: Taps 第九章 水栓類	57. Basic Types of Taps 57. 水栓類の基本型		
	58. Type of Faucet 58. 水栓の種類		
	59. Taps for Water Supply 59. 水道用の水栓類		
Chapter 10: Water Pipes 第十章 給水管	60. Type of Water Supply Pipe 60. 給水管の種類		
	61. Cast Iron Pipe for Water Supply 61. 水道用鑄鉄管		
	62. Hyrum Tube 62. ヒューム管		
	63. Lead Pipes for Water Supply 63. 水道用鉛管		
	64. "Tokiwa" lead pipes for water supply 64. 水道用「トキワ」鉛管		
	65. Steel Pipe and Steel Pipe 65. 鋼管及鉄管		
Chapter 11: Rooftop Fire Extinguishing Systems 第十一章 屋内消火設備	66. Firefighting Water Line 66. 消火給水線	Chapter 7: Fire Prevention and Extinguishing Systems 七 防火及び消火設備	1. The Significance of Fire Protection and Extinguishing Systems 一 防火及び消火設備の意義
	67. The Size of the Fire Fighting Standpipe 67. 消火立上り管の大きさ		2. Fire Alarm Installation 二 火災警報装置

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

<i>Waseda Architectural Lecture Notes</i> 講義録-『衛生設備』(昭和17年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和17年)	
	68. Fire Hydrant 68. 消火栓		3. Fire Extinguishers 三 消火器
	69. Machino-style Fire Hydrant Tangent 69. 町野式消火栓接手		
	70. Hose 70. ホース		
	71. Quiet Relationship Between the Tip of the Tube and the History Force 71. 筒先と歴史との関係		
	72. Firefighting Pumps 72. 消火用ポンプ		4. Fire Hydrant System 四 消火栓設備
73. Sublinker 73. スプリンクラー		5. Sprinklers and Drenchers 五 スプリンクラー及びドレン チャー	
Chapter 12: Hot Water Supply Methods 第十二章 給湯法	74. General Water Heating System 74. 給湯装置一般	Chapter 6: Building Health and Safety Equipment 六 建築衛生設 備	4. Hot Water Supply Methods 四 給湯法
	75. Hot Water Supply 75. 給湯量		
	76. Calculation of Temperature and Calorific Value of Hot Water 76. 温水の温度及熱量計算		
	77. Hot Water Boilers, Fuel, and Their Operating Expenses 77. 温水器及燃料並に其の経常費		
	79. Hot Water Methods by Steamer 79. 蒸気に依る温水法		
	80. Gas Tangled Water Heater 80. 瓦斯温水器		
	81. Electric Hot Water Machine 81. 電気温水器		
	82. Automatic Temperature Controller and Safety Equipment 82. 自動温度調節器並に安全装置		
	83. Hot Water Pipe 83. 給湯管		5. Hot Water Supply and Plumbing Methods 五 給湯配管法
84. Insulation Device 84. 保温装置			
Chapter 13: Sanitary Appliances 第十三章 衛生器具	85. General Hygiene Equipment 85. 衛生器具一般		7. Health Appliances and Accessories 七 衛生器具及び附属品
	86. Sanitary Ware Manufacturing Methods and Standards 86. 衛生陶器の製法及規格		
	87. Iron Health Appliances 87. 鉄製衛生器具		
	88. Large Toilet Bowl (Water Closet or W.C.) 88. 大便器(Water Closet 又は W.C.)		9. Improvement of Latrines 九 便所の改良

<i>Waseda Architectural Lecture Notes</i> 講義録-『衛生設備』(昭和 17 年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和 17 年)	
	89. Urinal (Urinal) 89. 小便器(Urinal)		
	90. Lavatory Wash Basin and Hand Basin 90. 洗面器及手洗器(Lavatory)		
	91. Streams, Kitchen Streams, Rag streams, Hospital Streams, etc. (Sink) 91. 流類,臺所用流,雑巾流,病院用流等(Sink)		
	92. Bath Tub 92. 浴槽(Bath Tub)		
Chapter 14: Traps 第十四章 トラップ	93. General of Traps 93. トラップの一般		
	94. How to Take a Trap Vent Pipe 94. トラップの通気管の取方		
	95. Trapping Continuity 95. トラップの接續		
	96. House Trap or Main Trap 96. ハウストラップ又はメーントラップ		
Chapter 15: Drainage Pipes 第十五章 排水管類	97. Cast Iron Slurry Pipe 97. 鑄鉄製汚水管		
	98. Steel Pipes and Drainage Pipes (Drainage Pipes) 98. 鋼管及排水管具(ドレーネーデフイチングス)		6. Drainage and Ventilation Methods 六 排水法及び通気法
	99. Drainage Lead Pipes 99. 排水鉛管		
	100. Pipe Joining 100. 管の接合		
Chapter 16: Indoor Drainage 第十六章 屋内排水	101. Names, Purposes and Materials of Various Tubes 101. 各種管の名稱と其の目的竝に材料		
	102. Pollutant and Drainage Systems 102. 汚水及排水管系		
	103. Size of Sewage, Drainage and Ventilation Pipe 103. 汚水及排水竝に通気管の大きさ		
	104. House Drainage Pipe 104. 家屋排水管		
	105. House Sewage Pipe 105. 家屋下水管		
	106. Testing of Sewage and Drainage Pipe 106. 汚水及排水管等の試験		
Chapter 17: Sewage Disposal Methods 第十七章 汚水處分法	107. General Methods of Sewage Separation 107. 汚水處分法の一般		
	108. Single Sewage Purifier and Its Principle 108. 單獨汚水浄化槽と其の原理		10. Sewage Purification Equipment 十 汚水浄化装置
	109. Single Pollution Water Purifier and Its Control 109. 單獨汚水浄化槽と其の取締		
	109. 單獨汚水浄化槽と其の取締		

<i>Waseda Architectural Lecture Notes</i> 講義録-『衛生設備』(昭和17年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和17年)	
	110. Methods of Determining the Number of Persons Using the Sewage Tank 110. 汚水槽使用人員の決定方法 111. Design Guidelines for the Various Parts of the Sewage Tank 111. 汚水槽各部設計要項		
	112. Decomposition Tank 112. 腐敗槽		
	113. Preparation Filtration Tank 113. 豫備濾過槽		
	114. Oxidation Tank 114. 酸化槽		
	115. Disinfectant Lees and Disinfection Equipment 115. 消毒槽及消毒装置		
	116. Discharge Unit, Slurry pump 116. 排出装置、汚水汲上ポンプ		

• The grey part is the same for both, the blue part is unique to the *Lecture Notes*, and the green part is special to the *Building Machinery and Equipment*.

Table 5.22 Equipment section-4 comparison between the *Waseda Architectural Lecture Notes* and Commercial Machinery and apparatus equipment¹¹³.

<i>Waseda Architectural Lecture Notes</i> 講義録-『建築電気工事』(昭和 17 年)		<i>Building Machinery and Equipment</i> 『建築機械設備』(昭和 17 年)		
Chapter 1: Types of Indoor Electrical Equipment and Power Requirements 第 1 章 屋内電気装置の種類及所要電力	1.1 Electric Light 1.1 電燈	Chapter 8: Electrical Equipment 八 電気設備	2. Electric Lighting 二 電燈照明	
	1.2 Electric Motors 1.2 電動機		3. Electrical Communication and Signal Equipment 三 電気通信及び信號装置	
	1.3 Electric Heating Elements 1.3 電熱器			
	1.4 Small Electrical Equipment 1.4 小型電気器具			
	1.5 Electric Bell 1.5 電鈴			
	1.6 Telephone 1.6 電話			
	1.7 Electric Clock 1.7 電気時計			6. Electric Clock 六 電気時計
	1.8 Radio 1.8 ラジオ			5. Lightning Protection and Security Equipment 五 避雷及び保安装置
	1.9 Lightning Rods 1.9 避雷針			
	Chapter 2: Types of Wiring Methods 第 2 章 配線方法の種類			2.1 Exposed Construction 2.1 露出工事
2.2 Concealment Works 2.2 隠蔽工事				
2.3 Wooden Wire Guttering 2.3 木製線樋工事				
2.4 Metal Guttering 2.4 金属樋工事				
2.5 Metal Pipe Work 2.5 金属管工事				
2.6 Armored Cable Work 2.6 鎧装ケーブル工事				
2.7 Lead-Covered Wires 2.7 鉛被電線工事		1. Electricity Distribution 一 電力配給		
2.8 Sub-Floor Line Construction 2.8 床下線随工事				
Chapter 3: Construction Notes 第 3 章 工事上の注意	3.1 Piping and Wiring 3.1 配管,配線	Chapter 8: Electrical Equipment 八 電気設備	1. Electricity Distribution 一 電力配給	
	3.2 Retractor 3.2 引込口			
	3.3 Disarmament Boards and Shafts 3.3 分軍盤及シャフト			
	3.4 Location of the Outlets 3.4 アウトレットの位置			
	3.5 Position of the Switchgear 3.5 開閉器の位置			
	3.6 How to Install the Appliance 3.6 器具の取附方			
	4.1 Change Room			

¹¹³ Made by the author based on the *Waseda Architectural Lecture Notes Shōwa 17th* and *Building Machinery and Equipment*.

Chapter 4: Special Refuse and Special Equipment 第 4 章 特殊控及特殊装置	4.1 變電室		
	4.2 Storage Room 4.2 蓄池室		

• The grey part is the same for both, the blue part is unique to the *Lecture Notes*, and the green part is special to the *Building Machinery and Equipment*.

The first significant change is that the various temperature and even calculation-related contents that appeared in the Shōwa 17th edition that did not exist from the beginning. There was not much of this content in the Shōwa 4th edition of the *Lecture Notes*. The only calculation in that room is the temperature difference between the walls and the windows. That's how much heat escapes, or how little. The point is that we have to calculate the temperature difference and the amount of heat that will escape.

Although the contents of the Shōwa 4th edition of the *Lecture Notes* included duplex windows, there were no duplex windows in Japan at that time. The actual situation was that duplex windows were used in the United States and Europe at that time because it was colder, and the first use of duplex windows in Japan was around the 1980s, and the author of the subject of construction equipment was aware of this fact. In addition, according to the 31 meters limit for buildings in the 1919 “Municipal Building Law”¹¹⁴, Japan had just started to build 30 meters buildings, and not many people were doing skyscrapers at that time, so it was necessary to consider such a problem only after it was possible to design such high-rise buildings correctly and in large numbers. Therefore, the contents of the lecture notes for the subject of construction equipment were translated directly from some American and European reference books, so the *Lecture Notes* can be regarded as a very **cutting-edge educational popularization** in Japan at that time.

From Shōwa 4th to Shōwa 17th, the contents of the lecture notes increased in terms of how much heat was needed, and the calculation of heating and cooling was included. The socially desirable building was one that could control the temperature and humidity at the most comfortable level. These contents were documented in the lecture notes of Shōwa 17th, **which fully reflected the requirements of the construction workers at that time.**

¹¹⁴ 「市街地建築物法」: Municipal Building Law.

The next section of the notes was the construction section. In Table 5.20 below, the left column is the construction-related contents to the Shōwa 4th *Waseda Architectural Lecture Notes*, the right column is the *Commercial Newest Architectural Structures*. The grey part is the same for both, the blue part is unique to the *Lecture Notes*, and the green part is special to the *Newest Architectural Structures*.

Table 5.23 Construction section comparison between the *Waseda Architectural Lecture Notes* and Commercial Newest Architectural Structures¹¹⁵.

<i>Waseda Architectural Lecture Notes Shōwa 4th</i> 講義録—『構造力学』（昭和4年）		<i>Newest Architectural Structures</i> 『最新建築構造学』（昭和7年）	
Chapter 1: Power 第一章 力	1. General Description 1. 概説	Chapter 1: Hydrostatics — 静力学	1. Power 1. 力
	2. Synthesis and Decomposition of Forces 2. 力の合成及分解		2. Equilibrium of forces in structures 2. 架構物に於ける力の平衡
	3. Imbalance of Forces 3. 力の不衡		
	4. The use of Force Diagram 4. 力の図式第法の応用		
	5. Imbalance of Forces in Structures 5. 架構物に於ける力の不衡		
	6. Properties of the Insulating Surface 6. 断面の性質		3. Properties of the insulating surface 3. 断面の性質
	7. Face Strength 7. 面力		
Chapter 2: Materials Science 第二章 材料学	8. Stress and Strain 8. 應力及變形	Chapter 2: Material Strength 二 材料強弱	2. Change of shape 2. 變形
	9. Problems Relating to the Power of Public Service 9. 應力に関する諸問題		1. Stress 1. 應力
	10. Simple beam 10. 梁（單梁）		3. Strength of the material 3. 材料の強度
	11. Columns 11. 柱	Chapter 3: Structural Strength 三 構造強弱	1. Pillar 1. 柱
12. Synthetic Stress 12. 合成應力	2. Composite and eccentric loads 2. 合成應力と偏心荷重		
	13. General 13. 總論	Chapter 4: Design of Structures 四 構造物の 設計	1. External forces 1. 外力
	14. Tsugite 14. 継手		2. Joints 2. 接合

¹¹⁵ Made by the author based on the *Waseda Architectural Lecture Notes Shōwa 4th* and *Modern Building Structures*.

Chapter 3: Application to Building Structures 第三章 建築構造 物への應用	16. Floor 16. 床		3. Floors 3. 床
	15. Roof 15. 屋根		4. Hutments 4. 小屋組
Chapter 4: The Foundation 第四章 基礎	17. General Description 17. 概説		5. Basics 5. 基礎
	27. Water Pressure 27. 水壓		6. Water Tanks and Retaining Walls 6. 水槽と擁壁
	19. Pile Bearing Capacity 19. 杭耐力		
	20. Single Foundation 20. 單獨基礎		
	21. United Foundation 21. 聯合基礎		
	22. Eccentric Foundations 22. 偏心基礎	Advanced Course in Structural Mechanics 構造力学特論	1. Meaning of Inertial Construction 1. 不静定構の意味
	23. Eccentric Load-Bearing Foundations 23. 偏心荷重を受ける基礎		2. Solving in Equilibrium Structures 2. 不静定構の解法
	24. Foundation Under Tension 24. 張力を受ける基礎		1. General Description 1. 概説
	25. Moat Pillars 25. 堀立柱		2. Basic Formula 2. 基本公式
	Chapter 5: Retaining Walls 第五章 擁壁	26. General Description 26. 總説	
18. Ground Bearing Capacity 18. 地耐力		Chapter 6: Deflection Angle and Deflection Method 六 撓角撓度 法	
28. Earth Pressure 28. 土壓			5. Practical Examples 5. 應用例題
29. Abrasive and Cohesive Forces of Soil 29. 土の磨擦力及凝聚力			6. Mechanical Writing with Repetition 6. 機械的作表竝に反復法
30. Change of Breathing Angle Due to Earthquake 30. 地震による息角の變化			7. Basic Formulas for Arched Timbers 7. アーチ型材に對する基本公 式
31. Excavation Theory 31. 土壓の理論			8. Solutions for Structures Containing Arched Timbers 8. アーチ型材を含む架構の解 法
32. Wedge Theory 32. 土楔論		Chapter 7: The Fourfold Efficiency Theorem 七 四曲能率 の定理	1. General Description 1. 概説
33. How to Solve the Hydraulic Pressure Problem Based On Soil Wedge Theory 33. 土楔論による土壓の図式解法			2. Basic Formula 2. 基本公式

	34. Rankine's Theory 34. ランキン氏の理論(Rankine,s. Theory)		3. Corner Equation 3. 角方程式
	35. When the Back of the Retaining Wall is Inclined 35. 擁壁の背面が傾斜せる時		4. Practical Examples 4. 応用例題
	36. Equivalent Fluid Pressure 36. 等價流動體壓力		5. Applications for Arches 5. アーチ型材に対する應用
	37. Design of Retaining Walls 37. 擁壁の設計		1. General Description 1. 概説
	38. Design of Gravity and Semi-Gravity Retaining Walls 38. 重力式及半重力式擁壁の設計		2. Fixed-Dot and Percentages 2. 定點及分率
	39. Design of Retaining Wall Sections 39. 擁壁各部の設計		3. Approximate Formulae for Fixed-Dot and Fractional 3. 定點及分率の近似式
Chapter 6:The Chimney 第六章 煙突	40. Size of the Chimney 40. 煙突の大きさ	Chapter 8: Fixed-Point Method 八 定點法	4. Load-Bearing end Curvature 4. 荷重材支端曲能率
	41. Structure and Type 41. 構造及種類		5. Edge Curvature Due to Relative Movement of Timber Edges 5. 材端の相對的移動に依る支端曲能率
	42. Self-Sustaining Reinforced Concrete Chimney 42. 鉄筋コンクリート獨立式煙突 (Self-Sustaining Reinforcedl Conerete Chimney)		6. Solving the Node-Shifting Case 6. 節點移動する場合の解法
	43. Self-Sustaining Steel Chimney 43. 鐵板造獨立式煙突		7. Practical Examples 7. 応用例題
	44. Guyed Steel- Chimney 44. 鉄鈹造支線式煙突(Guyed Steel-Chimney)		
	45. Steel-Framed Chimney 45. 鉄鈹造支枠式煙突	Chapter 9: The Law of Minimum Effort 九 最小働の法則	1. Inner Work 1. 内働
Chapter 7: Deflection Due to Bonding Stresses 第七章 曲能率に依る梁の撓曲	46. General Description 46. 概説	Chapter 10: Deflection of the Frame 十 架構の撓み	2. Castigliano's Theorem 2. カスチリアーノの定理
	47. Elastic Curve Method 47. 彈性曲線法		3. The Solution According to Castigliano's Theorem 3. カスチリアーノの定理に依る解法
	48. Area-Moment Method 48. 面積曲能率法		1. Deflection of Beams or Simple Girders 1. 梁または簡単な架構の撓み
	49. Reload Weight Method 49. 彈重量法		2. No Deflection 2. 結構の撓み
			3. How to Illustrate A Change of Shape 3. 結構の變形の図示法
			4. Another Way to Solve Inertia 4. 不靜定結構の別解法

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

	50. Deflection Due to Shearing Stresses 50. 剪力に依る梁の撓曲		1. Types of Arches 1. アーチの種類
	51. Deflection Coefficients 51. 撓曲の係数		2. Reaction Forces and the Equation to Find Them 2. 反力とこれを求める方程式
Chapter 8 : Continuous Beams 第八章 連梁	52. the Application of the Curvature Formula or Moll's Theorem 52. 撓曲公式又はモールの定理の應用	Chapter 11: Arches 十一 アーチ	3. Triple Buckle Arches 3. 三鉸節アーチ
	53. Theorem of Three Moments 53. 撓曲公式又はモールの定理の應用		4. The Stresses Acting on the Arch's Insulating Surface and the Movement and Rotation Caused by Them 4. アーチの断面に働く應力並に之に依つて生ずる移動及廻轉
	54. A Test of the Efficiency of Three Songs 54. 三曲能率方程式の應用		5. Two-Breasted Arch 5. 二鉸節アーチ
Chapter 9:Framed Structure with Rigid Joints 第九章 剛節架構	55. Classification of Framed Structure 55. 架構の分類		6. Diagrammatic Solution of A Double-Barred Arch 6. 二鉸節アーチの図式解法
	56. Principles of Least Work 56. 最小働の法則	Chapter 5: Rigid Frame 五 剛節架構	7. Buckle-Less Decorated Arch 7. 無鉸飾アーチ
	57. the Application of the Castaicuano Theorem 57. カステクアノの定理の應用		1. The Main Idea of the Rigid Section Structure 1. 剛節架構の大意
	58. Slope Deflection Method 58. 撓角撓度法		2. Solutions for Rigid Section Structures 2. 剛節架構の解法
59. the Four Curvature Efficiency Theorem and its Applications 59. 四曲能率定理と其の應用	3. Approximate Solution 3. 近似解法		
Chapter 10: Framed Structure with Pin Joints 第十章 滑節架構	60. Transverse Bent 60. トランスワース ベント (Transverse Bent)		4. Seismic Calculations and Structural Requirements 4. 耐震計算及耐震構造要項
	61. Portal Bracing 61. 橋門構		
	62. Deflection of Flamed Structure with Pin Joints 62. 滑節架構の撓曲		
	63. How to Show Flexural Changes 63. 撓曲變形の図示法		
	64. Solution of General Unsettled Smooth-Jointed Girders 64. 一般不都定滑節架構の解法		
65. Two-Hinged Arch 65. 二鉸節アーチ			

・ The grey part is the same for both, the blue part is unique to the *Lecture Notes*, and the green part is special to the *Newest Architectural Structures*.

First, Tachū NAITŌ described that “In short, this book is a good reference book for general architects as well as a good instructional book for students at universities and industrial schools.” in the preface of *Newest Architectural Structures*, this specific comparison in Table 5.20 shows that the Commercial book is more conceptual in its content setting and highlights the advanced educational orientation of the construction of the time. The *Waseda Architectural Lecture Notes*, on the other hand, is more practically oriented in its teaching content and is aimed at people who actually work on construction sites.

The content and specialization of the *Waseda Architectural Lecture Notes* were higher than that of the commercially available books, and the post-lesson exercises were the same as those in the commercially available books, but the number of practices was slightly less. The price was also lower.

In addition to the highest proportion of equipment and construction, there was a fourth category of building materials. The author has conducted a more detailed survey of building materials in the Shōwa 17th edition, which is shown in Table 5.21.

Table 5.24 Detailed catalogue of building materials (*Waseda Architectural Lecture Notes*, Shōwa 17th)¹¹⁶.

<i>Waseda Architectural Lecture Notes</i> 講義録—『建築材料』（昭和17年）	
Chapter 1: General 第1章 総論	1.1 General 1.1 概説
	1.2 Properties of the Material 1.2 材料の性質
	1.3 Material Testing 1.3 材料試験
	1.4 Supply of Materials 1.4 材料の供給
	1.5 The Economics of Materials 1.5 材料の経済
Chapter 2: Wood and Bamboo 第2章 木材及び竹材	2.1 Growth and Organisation 2.1 成長と組織
	2.2 Logging and Transport 2.2 伐採及運搬等
	2.3 Sawing Methods 2.3 製材方法
	2.4 Shrinkage and Drying 2.4 収縮と乾燥
	2.5 Quality of Wood 2.5 木材の品質
	2.6 Properties of Wood 2.6 木材の性質
	2.7 Wood Decay, Worm Damage and Their Conservation and Preservation 2.7 木材の腐朽, 虫害及其の保存存法
	2.8 Timber Types and Standards 2.8 各種木材及規格
	2.9 Bamboo Wood 2.9 竹材
Chapter 3: Stone, Sand and Gravel 第3章 石材、砂、砂利	3.1 Types of Stone 3.1 石材の種類
	3.2 Production and Transport 3.2 産出及運搬
	3.3 Organization of the Stone 3.3 石材の組織
	3.4 Properties of Stone 3.4 石材の性質
	3.5 Processing and Installation 3.5 加工及施工
	3.6 Stone Materials and Standards 3.6 各種石材及規格

¹¹⁶ Made by the author based on the *Waseda Architectural Lecture Notes Shōwa17th*.

<i>Waseda Architectural Lecture Notes</i> 講義録—『建築材料』（昭和17年）	
	3.7 Sand, Gravel and Small Stones 3.7 砂、砂利、碎石
Chapter 4: Clay-Soaked Products 第4章 粘土焼成品	4.1 Clay 4.1 粘土
	4.2 Shaping and Sinking 4.2 造形及焼成
	4.3 Properties and Tests 4.3 性質と試験
	4.4 Various Types of Clay-Sorted Products 4.4 各種粘土焼成品
	4.5 Standards 4.5 規格
Chapter 5: Cement and Its Products 第5章 セメント及其の製品類	5.1 Cement Types 5.1 セメントの種類
	5.2 Boltland - Cement 5.2 ボルトランド・セメント
	5.3 Properties and Tests on Bolted-Land Cement 5.3 ボルトランドセメントの性質及試験
	5.4 Early Strength Cement and Special Cement 5.4 早強セメント及特殊セメント
	5.5 Mortar & Concrete 5.5 モルタル及コンクリート
	5.6 Cement Products 5.6 セメント製品
Chapter 6: Materials for Coating Walls 第6章 塗壁材料	6.1 Raw Materials for Coating Walls 6.1 塗壁原料
	6.2 Painted Wall Products, Mud Walls 6.2 塗壁製品,土壁
Chapter 7: Glass and Its Products 第7章 硝子及其製品	7.1 Raw Materials and Production Methods 7.1 原料と製法
	7.2 Properties of Glass 7.2 硝子の性質
	7.3 Glass Products 7.3 硝子製品
Chapter 8: Metal and Its products 第8章 金属及其製品	8.1 Irons & Steel 8.1 鉄及鋼
	8.2 Properties of Steel 8.2 鉄鋼の性質
	8.3 Various Iron and Steel 8.3 各種鉄鋼
	8.4 Copper, Ya-lead, Lead, Tin and Alumium 8.4 銅,亜鉛,鉛,錫及アルミルウム

<i>Waseda Architectural Lecture Notes</i> 講義録—『建築材料』(昭和 17 年)	
	8.5 Alloys 8.5 合金
	8.6 Various Alloys 8.6 各種合金
	8.7 Plating 8.7 鍍金
	8.8 Metal Electrical Goods and Standards 8.8 金屬電製品及規格
Chapter 9: Paints and Putty 第 9 章 塗料及パテ	9.1 Raw Material for Discharge 9.1 放料の原料
	9.2 Paints and Enamels 9.2 ペイント及エナメル
	9.3 Anise and Lacquer 9.3 アニス及ラッカー
	9.4 Colouring Agents and Optical Fillers 9.4 着色剤及目留剤
	9.5 Lacquer and Amber 9.5 漆及び澁
	9.6 Bathe Etc. 9.6 パテ其他
	9.7 Testing of Paints 9.7 塗料の試験
Chapter 10: Waterproofing, Fireproofing, Preservatives, etc. 第 10 章 防水、防火、防腐剤等	10.1 Waterproofing Materials and Coatings 10.1 防水材及防水剤
	10.2 Fire Protection Materials 10.2 防火剤
	10.3 Preservatives 10.3 防腐剤
Chapter 11: Plastic Industrial Products 第 11 章 可塑物工業製品	11.1 Synthetic Resins 11.1 各種合成樹脂
	11.2 Fibre Plasticisers 11.2 纖維素可塑物
	11.3 Protein-Plastic Relations 11.3 蛋白系可塑物關係
	11.4 Rubber Relations 11.4 ゴム關係
Chapter 12: Textile Products 第 12 章 纖維工業製品	12.1 Fibre 12.1 ファイバー
	12.2 Vulp Industry Relations 12.2 バルブ工業關係
	12.3 Tecks 12.3 テックス類

<i>Waseda Architectural Lecture Notes</i> 講義録—『建築材料』(昭和 17 年)	
	12.4 Paper and Textiles 12.4 紙及布製品關係
	12.5 Silk Products 12.5 絹製品關係
	12.6 Maoran Fibres 12.6 マオラン纖維
	12.7 Others 12.7 其他
Chapter 13: Sundry Materials 第 13 章 雜種材料	13.1 Flooring Materials 13.1 床仕上材料
	13.2 Wall Board, Wall Paper, Metal Siding& Ceiling 13.2 壁紙ボード類
	13.3 Roofing Materials 13.3 屋根葺材
	13.4 Heat-Proofing Materials 13.4 保温材料
	13.5 Sound-Absorbing Materials 13.5 吸音材料
	13.6 Mats & Carpets 13.6 敷物類
	13.7 Materials for Window Coverings 13.7 窓廻り材料
	13.8 Jointing Materials 13.8 聯結又は接合材料

The notes contained more data on domestic materials than in the early Shōwa period in terms of materials and construction methods. The author is Tsutomu SAKAI, a graduate of Waseda University, who after graduating joined A. Raymond's office and was close to Kyoji YOSHIDA, and at the time was involved in the compilation of the Architectural Institute of Japan's Architectural Design Documents (the Design Documents began appearing in architectural magazines in 1937 and were published in 1942). In other words, it can be said that the contents of the Lecture Notes were full of information that only members of the Society (there were not so many of them at that time, and they were the elite of engineers) could see at that time. It should be noted that international data on the physical properties of building materials and ergonomic data on design were systematically and energetically developed by the then Ministry of Finance when the Diet building was designed and constructed before the war, by introducing measuring instruments from abroad.

A detailed survey of the *Waseda Architectural Lecture Notes* editors is shown below.

- **Shogo SAKURAI¹¹⁷ (桜井省吾)**

1897 Born in Tokyo

1920 Graduated from the Department of Architecture, Faculty of Science and Engineering, Waseda University

1922 - 1923 Studied in the United States at Columbia University and the University of Illinois, studying building plumbing, heating and ventilation engineering

1923 - 1928 Opened an architectural equipment design office

1924 - 1926 Training in hygiene and bacteriology at Keio University Medical School

1928 Worked for Okura Civil Engineering (大倉土木, now Taisei Corporation 大成建設)

1929 - 1935 Lecturer at Tokyo Higher Technical School (東京高等工学校)

1940 - 1946 Lecturer in Engineering at Waseda University Senmon School(早稲田大学専門部)

1944 Doctor of Engineering

1946 Lecturer at Waseda University

1948 Lecturer at Japan Women's University

- **Tsutomu SAKAI (酒井勉)**

1901 Born in Shizuoka Prefecture

1927 Graduated with a degree in Architecture, Faculty of Science and Engineering, Waseda University

1927 Joined the architectural firm of A. Raymond

1937 Managing the office of Tsutomu SAKAI

1946 Technical Research Institute of the War Reconstruction Agency (戦災復興院技術研究所, now Building Research Institute of the Ministry of Construction 建設省建築研究所)

1960 Doctor of Engineering

1961 Professor at Musashi Institute of Technology (武蔵工業大学, now, Tokyo City University 東京都市大学)

1971 Professor at Chubu Institute of Technology (中部工業大学, now, Chubu University 中部大学)

¹¹⁷ According to Shogo SAKURAI's curriculum vitae of 1949.

- **Ichiro ŌSAWA (大澤一郎)**

1914 Graduated from Waseda University, Department of Architecture¹¹⁸
1916 Graduated from Waseda University, Department of Mechanical Engineering
1916 Assistant Professor, Department of Architecture, Waseda University
1920-22 Studied at the University of Illinois, USA
1929 Professor at Nihon University

What is essential in common between SAKURAI and SAKAI is that, at the time of writing the *Waseda Architectural Lecture Notes*, they were not full-time Waseda University teachers, but were engaged in higher education and research in architecture as lecturers at technical schools and contractors, while working for private construction companies and design offices. Moreover, after the war, SAKURAI became a professor at Shibaura Institute of Technology (芝浦工業大学), and SAKAI became a professor at Musashi Institute of Technology (now Tokyo City University), etc., after serving as a director of the Building Research Institute of the Ministry of Construction and became a leader in cutting-edge research and higher education.

From both the comparison above and the editors' biographies, it is likely that the *Waseda Architectural Lecture Notes* were intended for people who were unable to enter the higher technical schools and universities of the time, and who wanted to acquire a high level of architectural expertise. It could be assumed that the *Waseda Architectural Lecture Notes* were written and taught not only by academic staffs, but also by someone from the private sector with an excellent academic background.

Also, it is worth pointing out that both Tachū NAITŌ's and Ichirō ŌSAWA's commercially available books state in their prefaces that they were standard textbooks and reference books for the industrial school graduation level verification test. However, the above survey of construction equipment, construction structures and building materials shows that the *Waseda Architectural Lecture Notes* not only covers the contents of the standard textbooks, but also contains more cutting-edge knowledge than the standard textbooks. In other words, the professionalism of the *Waseda Architectural Lecture Notes* was roughly in line with the level of industrial schools at the time.

In the next section, therefore, the author surveys architectural books from the Meiji Period till the Shōwa Period and compares them with the standards of the Architectural Institute of Japan.

¹¹⁸ Not yet a university according to the University Ordinance.

5.5 The Influence of the *Waseda Architectural Lecture Notes* in SPociety

5.5.1 Edicts and qualifications related with architecture

In that period, many people in society were unable to enter schools during the war. The *Waseda Architectural Lecture Notes* provided these people with equal opportunities for education and employment. As shown in the table 5.22, anyone wishing to work in the building construction industry had to first qualify as an architect or construction management engineer or other qualifies.

Table 5.25 Reference table for years of occupation qualification¹¹⁹.

Architect	Grade 2	3 years of practical experience
	Grade 1	Grade 2 passers 4 years of practical experience
Building Construction Management Technician	Grade 2	3 years of practical experience
	Grade 1	Grade 2 qualified after 3 years (2 years full-time supervision)
		Grade 2 qualified after 5 years
	8 years of practical experience (2 years as a full-time supervisor)	
Exemption		Special (Exemption)
		8 years practical experience (1 year supervising supervisors)
		10 years of practical experience (1 year of chief technical supervision)

For those who are unable to take this type of examination, there is an alternative opportunity to enter the workplace, namely the “*Former Industrial School Graduation Level Examination Regulations*”, which is open to industrial education. And then, if they fulfilled a certain number of years of practical training, they could work in the same way as those who had obtained qualifications.

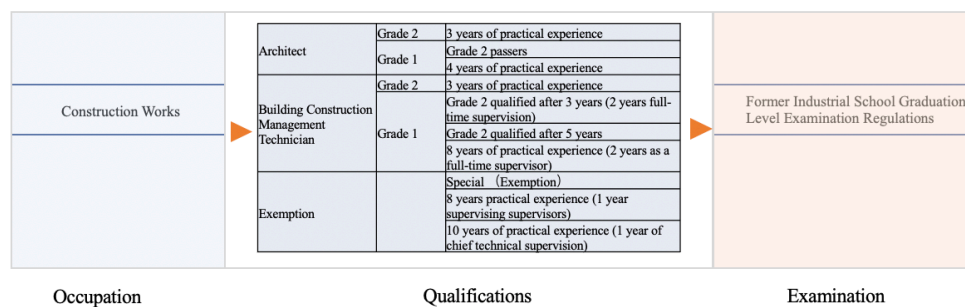


Figure 5.6 Schematic diagram of occupation and examination qualifications¹²⁰.

¹¹⁹ Made by the author which based on the Architects and Building Officials Act and Kiyotaka HAYAMI. 2011. *Architects and Building Officials: One Hundred Years of Law and Housing*. Tokyo: UNIVERSITY OF TOKYO PRESS.

¹²⁰ Made by the author which based on the Architects and Building Officials Act and Kiyotaka HAYAMI. 2011.

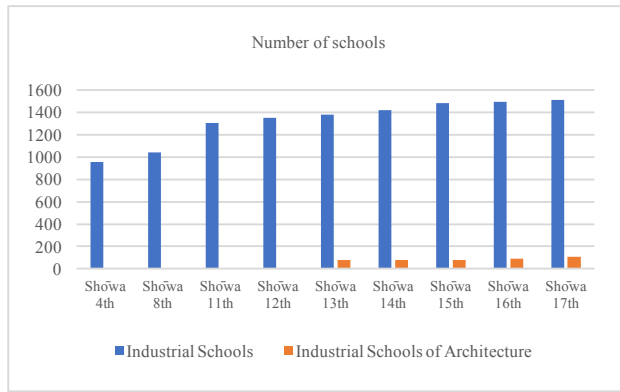


Figure 5.7 Diagrammatic representation of the number of industrial schools and industrial schools of architecture¹²¹.

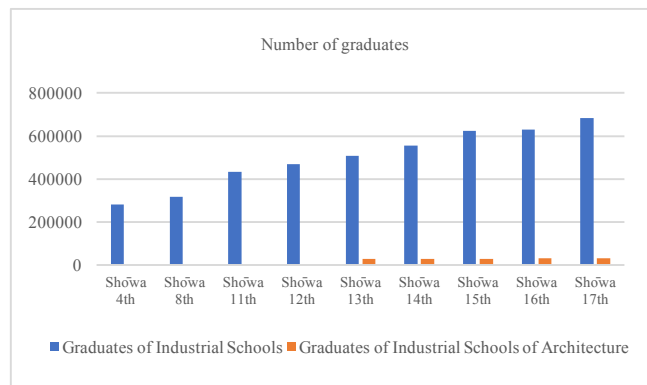


Figure 5.8 Diagrammatic representation of the number of graduates at industrial schools and industrial schools of architecture¹²².

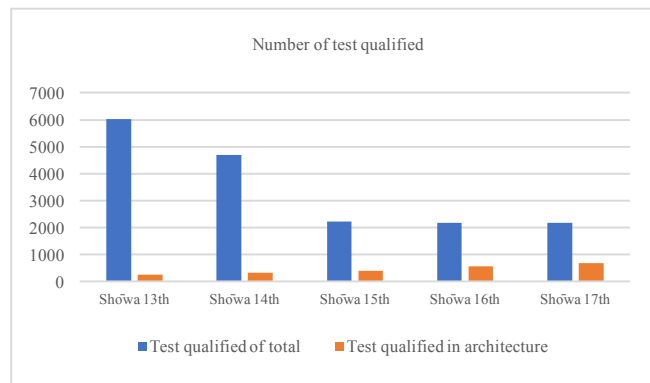


Figure 5.9 Diagrammatic representation of the number of tests qualified at industrial schools and industrial schools of architecture¹²³.

Architects and Building Officials: One Hundred Years of Law and Housing. Tokyo: UNIVERSITY OF TOKYO PRESS.

¹²¹ Made by the author and based on the *Fifty Years of Industrial Education*.

¹²² Made by the author and based on the *Fifty Years of Industrial Education*.

¹²³ Made by the author and based on the *Fifty Years of Industrial Education*.

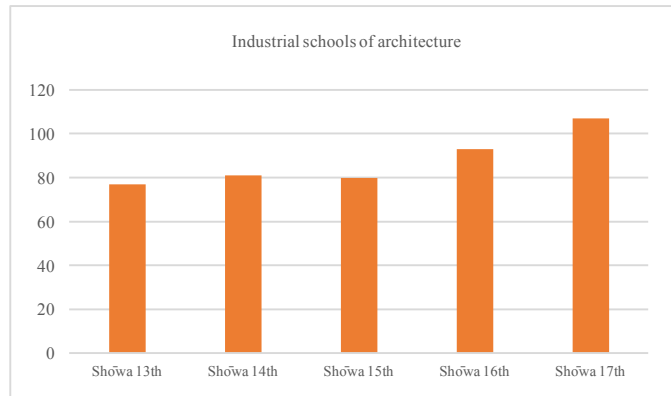


Figure 5.10 Diagrammatic representation of the number of industrial schools of architecture¹²⁴.

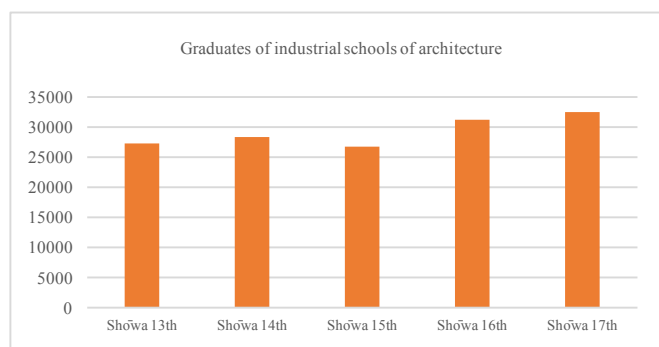


Figure 5.11 Diagrammatic representation of the number of graduates at industrial schools of architecture¹²⁵.

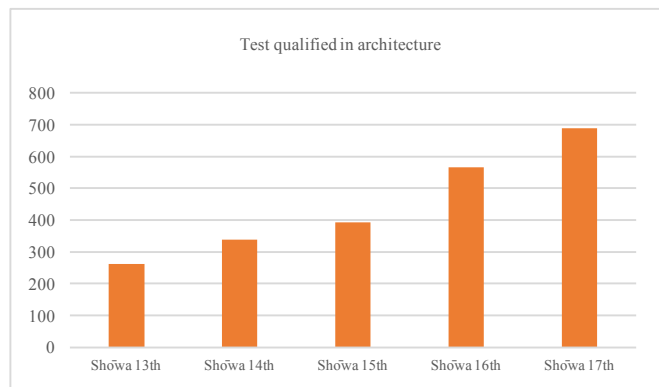


Figure 5.12 Diagrammatic representation of the number of tests qualified at industrial schools of architecture¹²⁶.

¹²⁴ Made by the author and based on the *Fifty Years of Industrial Education* and Figure 5.8.

¹²⁵ Made by the author and based on the *Fifty Years of Industrial Education* and Figure 5.9.

¹²⁶ Made by the author and based on the *Fifty Years of Industrial Education* and Figure 5.10.

The author therefore proceeds to investigate the specifics of this examination. According to the results of the “*Industrial School Graduation Level Examination*”, between 1929 (Shōwa 4th) and 1944 (Shōwa 19th), when the *Waseda Architectural Lecture Notes* was published.

The number of students who passed the examinations for architecture increased every year. Of all the commercial textbooks on the society at the time, the *Waseda Architectural Lecture Notes* was the cheapest and covered all the subjects of the “*Industrial School Graduation Level Examination*”.

It could be concluded that the *Waseda Architectural Lecture Notes* made a significant contribution to industrial education.

5.5.2 Survey on the destinations of graduates

There is no record of the number of *publications* and purchases of the *Waseda Architectural Lecture Notes* at the time, so it is difficult to estimate its impact on society directly. However, it is possible to do the research about the members of the Waseda Association (Doukoukai) from the periphery, who have purchased the *Waseda Architectural Lecture Notes* and to speculate on the impact of the *Waseda Architectural Lecture Notes* on the dissemination of society.

Two of the members were selected from among the influential graduates. One of them is Kakuei TANAKA, who purchased the *Waseda Architectural Lecture Notes* when he was in Manchurian and studied them as an off-campus student.



Figure 5.13 Waseda Doukoukai Membership Badge and one graduate -Kakuei TANAKA.

¹²⁷ From Wikipedia, https://en.wikipedia.org/wiki/Kakuei_Tanaka.

¹²⁸ From the *Waseda Architectural Lecture Notes Suzuki Collection*.

The other graduate is Soon-kyun HONG¹²⁹, one Church Architect from Korea. He designed church buildings which have had a significant influence on Korea today. HONG obtained the *Waseda Architectural Lecture Notes* from his sister, who was a student at Waseda University. He became a self-taught architect of a famous architectural church in Korea.



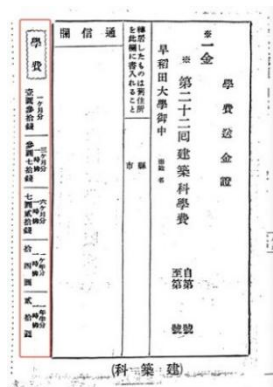
130

Figure 5.14 One graduate of the *Waseda Architectural Lecture Notes* - Soon-kyun HONG.

In summary, the catalogue is an international, flexible, and standard series of books that actively contribute to the modernization of Japanese industrial education, with the aim of training construction professionals for accelerated modernization.

5.5.3 The dissemination of the *Waseda Architectural Lecture Notes*

A receipt for Figure 5.9 will be attached to the last page of each lecture notes. The price of the *Waseda Architectural Lecture Notes* is 1.30 Yen, and there will be a discount for purchasing more than three volumes at one time (3 volumes for 3.70 Yen, six volumes for 7.20 Yen, twelve volumes for 14.00 Yen, eighteen volumes for 21.00 Yen).



131

Figure 5.15 Proof of payment of *Waseda Architectural lecture notes*.

¹²⁹ 홍순균 (洪淳均) 1921-2017 Architect/Pastor.

¹³⁰ From the Pastor Soon-kyun HONG 's Memoirs – *Nongshin Pastoral Association*.

¹³¹ Tuition fee : 1.3 Yen per volume. 3 or more volumes are available at a discount price. (3 volumes for 3.70 Yen, 6 volumes for 7.20 Yen, 12 volumes for 14.00 Yen, 18 volumes for 21.00 Yen.)

According to the statistics of rice price in the *Hundred-Year Statistics of the Japanese Economy*, from Shōwa 7th to Shōwa 19th, the cost of rice increased from 21.10 Yen/60kg to 47.27 Yen/60kg, while the price of *Waseda Architectural Lecture Notes* was moderately 1.30 Yen and did not increase with the rising of social cost.

The previous subsection confirmed that *the Waseda Architectural Lecture Notes* were edited in accordance with standard textbook guidelines, and a comparison with the pricing of other traditional textbooks of the same period shows the pricing standards of the *Waseda Architectural Lecture notes*, as shown in the Table 5.23.

Table 5.26 The price of standard textbooks in the Shōwa Period.

Books	Authors	Publishers	Publication Year	Remarks (Textbooks Fee and Pages)	
				Fee	Pages
<i>Electrical and Miscellaneous</i> 『電気及雑』	Iku-shi FUKAZAWA 深沢幾市	Yoshida Public Works Publications Department	Shōwa 5 th (1930)		250
<i>Building Structures</i> 『建築構造学』	Tatsuumi ŌKAWARA 大河原達海 Gisaburō MURAYAMA 村山儀三郎	Reformed Engineering Company (Osaka)	Shōwa 6 th (1931)	1.65 Yen	
<i>A model of Western style building structure</i> 『洋式建築構造雛形』	Tarō SHINOHARA 篠原太郎	Taiyosha Bookstore	Shōwa 6 th (1931)	3.80 Yen	
<i>Architectural Style</i> 『建築様式』	Jitsu ŌOKA 大岡実	The Japan Society of Industrial Engineers (Tokyo)	Shōwa 7 th (1932)		
<i>New Building Structures</i> 『最新建築構造学』	Tachū NAITŌ 内藤多仲	Waseda University Press	Shōwa 7 th (1932)	4.00 Yen	505
<i>Steel Structure</i> 『鉄骨構造』	Jinkichi HORIGUCHI 堀口甚吉	Central Engineering Society (Tokyo)	Shōwa 7 th (1932)	2.20 Yen	
<i>Structural Mechanics</i> 『建築構造力学』	Naofumi MIURA 三浦尚史	Yodoya Bookstore Publishing Department (Osaka)	Shōwa 7 th (1932)	2.30 Yen	197
<i>Architectural Planning</i> 『建築計画』	Yoshio OKUDA 奥田芳男	Yoshida Public Works Publications Department	Shōwa 7 th (1932)	3.00 Yen	390
<i>Practical Building Structures, Volume 1</i> 『実用建築構造 上巻』	Tomishige SHŌJI 庄司富重	Suzuki Bookstore (Tokyo)	Shōwa 7 th (1932)	2.50 Yen	330
<i>Practical Western Style Building Structures</i> 『実用洋風建築構造学』	Matsuo MIZOGUCHI 溝口松雄	Suharaya Bookstore (Tokyo)	Shōwa 7 th (1932)	3.08 Yen	400

Chapter 5
The influence and the position of the *Waseda Architectural Lecture Notes* in society

Books	Authors	Publishers	Publication Year	Remarks (Textbooks Fee and Pages)	
				Fee	Pages
<i>Building Machinery and Equipment</i> 『建築機械設備』	Ichirō ŌSAWA 大澤一郎 Shōgo SAKURAI 桜井省吾 Masuo YAMAGIWA 山際満寿夫	Maruzen Co., Ltd.	Shōwa 7 th (1932)	4.00 Yen	521
<i>New Ladder of Building Science</i> 『新しき建築学階梯、巻の式』	Tatsutarō NAKAMURA 中村達太郎	Maruzen Co., Ltd.	Shōwa 7 th (1932)	2.00 Yen	252
<i>Building Structure Mechanics</i> 『建築構造力学』	Ayumi KIYOSHI 歩藤 清 Tsuji SEIJI 辻井清二	The Japan Society of Industrial Engineers (Tokyo)	Shōwa 7 th (1932)	3.05 Yen	616
<i>New Building Construction Methods</i> 『最新建築施工法』	Shirō HORI 堀 紫朗	Maruzen Co., Ltd.	Shōwa 8 th (1933)	4.05 Yen	470
<i>Reinforced Concrete Structures</i> 『鉄筋コンクリート構造』	Tarō SHINOHARA 篠原太郎	Yodoya Bookstore Publishing Department (Osaka)	Shōwa 8 th (1933)	2.02 Yen	228
<i>Building Construction Methods</i> 『建築施工法』	Masakazu KOBAYASHI 小林政一 Kaoru AMOU 天羽馨	Yoshida Public Works Publications Department	Shōwa 8 th (1933)	2.05 Yen	413
<i>Structural Mechanics</i> 『構造力学』	Jinkichi HORIGUCHI 堀口甚吉	Yoshida Public Works Publications Department	Shōwa 8 th (1933)	1.08 Yen	226
<i>Practical Building Materials</i> 『実用建築材料』	Teruo KINOYAMA 木野山照雄	Industrial Bookstore (Osaka)	Shōwa 13 th (1938)		
<i>New Western Style Building Structure</i> 『最新洋風建築構造』	Tatsumi ŌKAWARA 大河原達海 Gisaburō MURAYAMA 山口儀三郎	Railway Library (Tokyo)	Shōwa 13 th (1938)	1.80 Yen	200
<i>Knowledge of Reinforced Steel Structure</i> 『鉄筋鉄骨建築構造の知識』	Motorō ITŌ 伊東五郎	Civil Company (Tokyo)	Shōwa 13 th (1938)	2.00 Yen	215
<i>Deflection Angle Method</i> 『撓角法』	Kaoru ONO 小野 薫	Maruzen Co., Ltd.	Shōwa 14 th (1939)	1.20 Yen	87
<i>General Theory of Statically Indeterminate Rahmen</i> 『不静定ラーメン論』	Kaoru ONO 小野 薫	Maruzen Co., Ltd.	Shōwa 14 th (1939)	0.70 Yen	46

The price per volume of the *Waseda Architectural Lecture Notes* was 1.30 Yen, and comparing with this table, the *Waseda Architectural Lecture Notes* was very cheap compared to the textbooks sold at that time, and it was confirmed that it served the “*Off-campus Students*” who had no time, no money and lived far away.

Also, the grey area in the table shows that the books published by Waseda University’s professors were the most expensive textbooks at that time, thus the *Waseda Architectural Lecture Notes* provided the opportunity to get a higher quality education at a lower price for the society.

Table 5.27 Mailing Price of the *Waseda Architectural Lecture Notes*.

Price	1.30 Yen			
Shipping Fee		Up to 3 volumes	Up to 6 volumes	Up to 12 volumes
	Japan	0.10 Yen	0.14 Yen	0.22 Yen
	Taiwan, Sakhalin	0.27 Yen	0.34 Yen	0.47 Yen
	Korean Peninsula, Manchuria, Singapore	0.42 Yen	0.49 Yen	0.62 Yen

The Table 5.24 shows that the *Waseda Architectural Lecture Notes* was not only distributed in Japan, but also in various colonies of the time, such as Taiwan, Korea Peninsula, and Manchuria. And there is no evidence that the books in table 5.3 above were published overseas. This reflects the comprehensive coverage and international of the *Waseda Architectural Lecture Notes* and the concept of “*Opening University*” of Waseda’s correspondence education.

5.5.4 The end of the publication of the *Waseda Architectural Lecture Notes*

Table 5.28 The Decrees and Institutions related to education in Japan.

School Edict on Higher Education						
High School Edict (1894) 高等学校令 (明治 27 年)	Imperial University Edict (1897) 帝国大学令 (明治 27 年)	Industrial Schools Edict (1899) 実業学校令 (明治 32 年)	Vocational Schools Edict (1903) 専門学校令 (明治 36 年)	University Edict (1918) 大学令 (大正 7 年)		Secondary School Edict (1943) 中等学校令 (昭和 18 年)
				1918	1920	
Establishment of high schools	Expansion of Imperial Universities. Kyoto Imperial University in 1897, Tohoku Imperial University in 1907, Kyushu Imperial University in 1910.	Industrial schools, agricultural schools (including sericultural schools, veterinary schools and fishery schools), commercial schools, merchant marine schools and vocational training schools	Expansion of vocational schools	Expansion of Imperial University. Hokkaido Imperial University (1918), Osaka Imperial University (1931)		Unification of traditional industrial schools as secondary schools (4 years of study)
		After the Sino-Japanese War and the Russo-Japanese War, the development of modern industry was accompanied by the rapid growth of secondary and vocational schools.		In addition to governmental and comprehensive universities, public and private universities and colleges were allowed.	Promotion of vocational schools to universities : Waseda University and others approved	

The table 5.25 illustrates the Industrial School Edict¹³² issued in 1899 (Meiji 32nd), the need to train human resources to cope with the remarkable development of industry around 1897 (Meiji 30th) led to the promulgation of the Industrial School Edict in order to improve the educational environment. The enactment of this Edict led to the institutionalization of industrial schools, which had previously lacked uniform regulations.

The Secondary School Edict¹³³ was promulgated on January 21st, 1943 (Shōwa 18th) and came into effect on April 1 of the same year. As a result, the Junior High School Edict, and the Industrial School Edict were abolished.

As the Industrial School ended in Shōwa 18th, the same time that the *Waseda Architectural Lecture Notes* was discontinued, which also indicates that the *Waseda Architectural Lecture Notes* was intended for industrial schools.

¹³² The Industrial School Edict: Edict No. 29 of 7th February 1899, an imperial decree that regulated industrial schools among the secondary educational institutions in modern Japan.

¹³³ The Secondary School Edict: Edict No. 36 of 21st January 1943, was an imperial decree that regulated secondary schools among the secondary educational institutions in modern Japan.

5.5 Conclusion

This chapter examines the development of business education and architectural books and shows that the *Waseda Architectural Lecture Notes* was the longest and most widely published in the Shōwa period, and that it played an essential role in the training of Japanese architectural engineers.

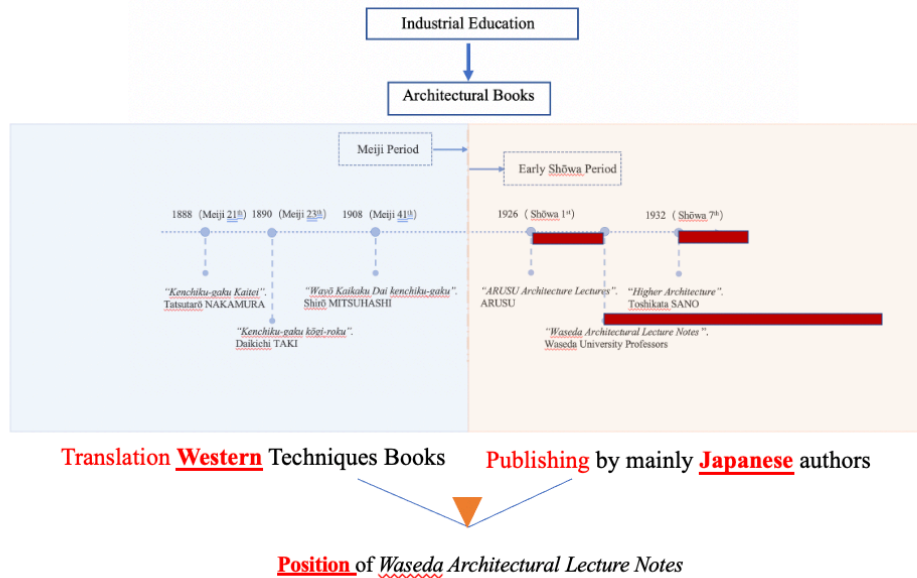


Figure 5.16 The position of the *Waseda Architectural Lecture Notes*.

Chapter 5 compares the *Waseda Architectural Lecture Notes* with the single textbooks and series of handbooks of external education to confirm the position of the *Waseda Architectural Lecture Notes* and to examine the impact on society by conducting a survey of qualifications and graduates related to architectural employment.

The standards for industrial education construction textbooks were then examined, and the standards at the time were that they had to meet seven categories of professorial detail and one category of building regulations in their classification. *Waseda Architectural Lecture Notes* reorganized the seven subjects in the “Subject Details” and added its own “practical” education subjects to cover all the subjects, while retaining the Drawing section of the Ministry of Education, Science and Culture’s industrial education plan which was originally deleted by the Architectural Institute of Japan. At that time, it was considered essential to fulfill seven teaching details and one building law in terms of classification. It was found that among the three main architecture lecture books circulating in society at that time, only *Waseda Architectural Lecture Notes* fully fulfilled the criteria for an architecture textbook in terms of classification, teaching ratio and specific research.

The completion of the analysis of the content of the *Waseda Architectural Lecture*

Notes, the reasons for the content changes were examined and closely related to the draft standard textbooks published by the Architectural Institute of Japan. A comparison of the lecture notes with other standard textbooks of the same era reveals that the *Waseda Architectural Lecture Notes* are highly consistent with the traditional textbooks in terms of content arrangement and content adjustments and are highly standardized.

The following comparison was made between the single textbooks of external industrial education and two series of books on building construction and construction equipment, both written by Waseda University teachers, and it was found that the *Waseda Architectural Lecture Notes* was slightly more specialized than the external industrial education, with the former being somewhat more detailed in terms of content and exercises than the latter. From Shōwa 4th to Shōwa 17th, the contents of the lecture notes increased in terms of how much heat was needed, and the calculation of heating and cooling was included. The socially desirable building is how to control the temperature and humidity at the most comfortable level. These contents are reflected in the lecture notes of Shōwa 17th, **which fully reflect the requirements of the construction workers at that time.**

As a textbook for industrial education, it provided equal opportunities for those who wanted to enter the construction industry at the time and increased the chances of passing the industrial school level graduation test. Although it is difficult to keep track of the graduates, the lecturers at the time participated in the Waseda symposium, studying together and holding examination discussion groups.

In summary, the *Waseda Architectural Lecture Notes* is an international, flexible, and standard series of books that actively contribute to the modernization of Japanese industrial education. It can be regarded as a very **cutting-edge educational popularization** in Japan at that time, with the aim of training construction professionals for accelerated modernization.

References

In sequential order

- Fumio MATSUNAGA. 2009. “A Study on the Establishment of Middle Level Education on Architecture in Japan: Through the Activities by the Ministry of Education and Architectural Institute of Japan, the Later Taishō-era and the Early Shōwa-era”. Fukuoka: KYUSHU UNIVERSITY.
- Tachū NAITŌ. 1932. *Newest Architectural Structures*. Tokyo: WASEDA UNIVERSITY PRESS.
- MINISTRY OF EDUCATION, SCIENCE AND CULTURE. 1934. *Fifty Years of Industrial Education*. Tokyo: THE 50TH ANNIVERSARY OF INDUSTRIAL EDUCATION.
- Mayumi TSUNODA. 2019. *History of Architecture in the Meiji Period*. Tokyo: CHŪŌKOURON BIJUTSU SHUPPAN PUBLISHING.
- Fumio MATSUNAGA. 2009. “A Study on the Establishment of Middle Level Education on Architecture in Japan: Through the Activities by the Ministry of Education and Architectural Institute of Japan, the Later Taishō-era and the Early Shōwa-era”. Fukuoka: KYUSHU UNIVERSITY.
- Tatsutarō NAKAMURA. 1887. *Kenchigaku Kaitei*. Tokyo: YONEKURAYA SHOTEN.
- Daikichi TAKI. 1888. *Kenchiku-gaku kōgi-roku*. Tokyo: KENCHIKU SHOIN.
- Shirō MITSUHASHI. 1908. *Wayō Kaikaku Dai kenchiku-gaku*. Tokyo: ŌKURA SHOTEN.
- ARUSU. 1928. *ARUSU Architecture Lectures*. Tokyo: ARUSU.
- Toshikata SANO. 1932. *Higher Architecture*. Tokyo: JOBAN SHOBO.
- WASEDA UNIVERSITY. 1942. *Waseda University Architecture Lecture Notes Shōwa 17th*. Tokyo: WASEDA UNIVERSITY PRESS.
- ARCHITECTURAL INSTITUTE OF JAPAN. 1938. *Architectural yearbook in Shōwa 13th*. Tokyo: MARUZEN PUBLISHING.
- ARCHITECTURAL INSTITUTE OF JAPAN. 1939. *Architectural yearbook in Shōwa 14th*. Tokyo: MARUZEN PUBLISHING.
- ARCHITECTURAL INSTITUTE OF JAPAN. 1940. *Architectural yearbook in Shōwa 15th*. Tokyo: MARUZEN PUBLISHING.

- ARCHITECTURAL INSTITUTE OF JAPAN. 1941. *Architectural yearbook in Shōwa 16th*. Tokyo: MARUZEN PUBLISHING.
- ARCHITECTURAL INSTITUTE OF JAPAN. 1942. *Architectural yearbook in Shōwa 17th*. Tokyo: MARUZEN PUBLISHING.
- Kiyotaka HAYAMI. 2011. *Architects and Building Officials: One Hundred Years of Law and Housing*. Tokyo: UNIVERSITY OF TOKYO PRESS.
- THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY. 1938a. *The future of industrial education in Japan*. Tokyo: THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY.
- THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY. 1938b. *Industrial education to cope with the current situation*. Tokyo: THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY.
- Toshio TOYODA. 1982. *Industrial Education in the Early Days of Japan's Industrialization*. Tokyo: UNITED NATIONS UNIVERSITY.
- Toshio TOYODA. 1984. *Industrial Education of Japan's Industrialization*. Tokyo: UNITED NATIONS UNIVERSITY.

Chapter 6

Conclusion

During the Meiji Period (1868-1912), the opening of Japan to the outside world and the development of the economy led to the introduction of Western technology and the start of Japan's modernization. The Meiji government established the Engineering Dormitory (later the Faculty of Engineering at the University of Tokyo) to introduce technology and train personnel for national architecture and urban design, focusing on 19th century Western eclecticism. As modernization progressed, the need for rational technology among housing and construction companies became widespread. There was an urgent need to train architectural engineers and architects to support the construction industry, which was developing rapidly at that time, but government university education alone was clearly not enough. Therefore, from the latter half of the Meiji Period, Waseda University and other institutions such as Waseda Technical School, Waseda Higher Technical School and Waseda Architectural Correspondence Education were established to educate people who would be responsible for actual architectural design and construction site technology.

In the history of architectural education in Japan, if the Meiji Period and Taishō Period was considered as the beginning of the modern educational system, the early Shōwa Period can be said to be the period when this system was developed and established. On the other hand, it still remains a problem to investigate the educational policy of modern architectural education and the level of architectural human resources in Japan from the end of the Taishō Period to the beginning of the Shōwa Period. This study focused on the establishment process of the curriculum of modern architectural education in Japan during the early Shōwa Period through the research objectives - *Waseda Architectural Lecture Notes*.

In this study, the author clarified the actual aspect that Waseda University's Architectural Correspondence Education existed as a teaching material, that is, "*Waseda Architectural Lecture Notes*", and discussed the historical role it played in modern architectural education. In other words, the purpose of this study is to understand the context of architectural correspondence education at Waseda University in the early Shōwa Period and to evaluate the historical role and position of Waseda University as a whole in architectural education in the early Shōwa Period.

This thesis consists of chapters 1 to 6.

Chapter 1, it not only presented the purpose and methods of the research and explains the originality of the research as well as the view that the development of architectural technology and the transformation of society inevitably demanded a unique educational system. The research theme of this thesis was to clarify the position of such additional

system in the context of the changes in architectural education due to the rapid modernization of Japan, and in the context of previous research such as the history of modern Japanese education, the history of modern Japanese architecture, the history of modern Japanese architectural education, and the lecture notes on modern Japanese architecture.

Chapter 2, examined the main points of architectural education at the current University of Tokyo at the dawn of modern architectural education in Japan. Based on this, the history of architectural education at Kogakuin(now, Kogakuin University), Tokyo Institute of Technology, Tokyo School of Arts(now, Tokyo University of Arts), Fukui Higher Technical School(now, Fukui University, School of Engineering), Kobe Higher Technical School(now, Kobe University, School of Engineering), Tokyo Higher School of Arts and Design(now, Chiba University, School of Engineering), Nagoya Higher Technical School(now, Nagoya Institute of Technology), and Kyoto Imperial University(now Kyoto University), and Nihon University were summarized. Next, the author examined the history of architectural education at Waseda University, which was the first private university to establish a Department of Architecture and arranged the relationship between the five educational institutions that existed at Waseda University in the early Shōwa period: the Department of Architecture, Waseda University Vocational Engineering Department, Waseda Higher Technical School, Waseda Technical School, and Architectural Correspondence Education (the *Waseda Architectural Lecture Notes*). Waseda University in the early Shōwa period established the Waseda Technical School, Waseda Higher Technical School and introduced Architectural Correspondence Education (the *Waseda Architectural Lecture Notes*) to broaden the social human resource base in order to cope with the situation where architectural technology at that time was largely dependent on traditional ones.

This approach to the educational system showed that Waseda University is essentially a “*practical*” university, and the perception of this practical embodiment can be achieved by analyzing *Waseda Architectural Lecture Notes*. The author pointed out that the essence of the development of modern architectural education in Japan lied in the shift from the general education of university education in architecture during the Meiji Period to industrial education in the late Taishō Period and early Shōwa Period.

In chapter 3, the author discussed the *Waseda Architectural Lecture Notes* in detail and examines the date of issue of the *Waseda Architectural Lecture Notes*, the current collection in Japan. The use of Waseda’s lectures as textbooks and teaching materials provided educational opportunities for all people, including those who did not have the time or financial means to go to school and those who lived in remote areas. Its mission was not confined to traditional educational purposes, but also included the technical aspects of practice, as well as helping the general public to understand architectural

expertise and to develop an interest in architecture in general and in specific areas within it. Its primary medium, *Waseda Architectural Lecture Notes*, was written and edited by faculty members of the Department of Architecture at Waseda University and published by the Waseda University Press. This educational system was called “*Architectural Correspondence Education*”, and those who purchased this *Waseda Architectural Lecture Notes* became “*Off-campus students*”.

Afterwards, the four collected collections are examined in terms of time confirmation and content. By analyzing the specific contents, the author identified that *Waseda Architectural Lecture Notes* were published every April and October 1929 (Shōwa 4th), and March 1944 (Shōwa 19th), a total of 26 times including the original edition. From the original to the third edition there were six published volumes including *Overview and History*, *Material and Construction*, *Implementation Plan*, *Equipment*, *Drawing* and *Architecture Plan*. From the fourth edition to the final edition were 18 published volumes. The analyses and comparisons above showed that the current volumes were mostly stored at Waseda University, covering the versions throughout 1929 (Shōwa 4th), 1932 (Shōwa 7th), 1940 (Shōwa 15th) and 1942 (Shōwa 17th). In the first three versions, only “*Machinery Equipments*” underwent significant changes. Between the last two performances, significant changes were made to subject allocation.

Chapter 4 first examined the specific changes in the content of *Waseda Architectural Lecture Notes* and the reasons for the changes mentioned in Chapter 3, and subsequently provided an analysis of the comparison between the *Waseda Architectural Lecture Notes* and the internal architectural education at Waseda University. As a result of the comparative analysis, it was confirmed that only the subject of mechanical equipment was modified drastically from 1940 (Shōwa 15th) to 1942 (Shōwa 17th). Next, in relation to the composition of the courses in the lecture book, it was confirmed that the course on structure accounted for the most significant proportion of the total, followed by architectural design and architectural equipment, and that the course on architectural history in 1942 (Shōwa 17th) was comparatively small. This was related to the fact that *Wooden Architecture* and *Manchurian Architecture* were newly included as subjects between 1940 (Shōwa 15th) to 1942 (Shōwa 17th), possibly due to the tightening of restrictions on the use of reinforced concrete and munitions in wartime Japan, which led to a tendency to conservation of reinforced concrete and steel in buildings and recommendations of wooden architecture as an alternative.

As a result of the comparison with the Department of Architecture, it was concluded that, although the overall standard of the *Waseda Architectural Lecture Notes* was lower than that of the Department of Architecture, its content and subject proportions were in line with those of the Department of Architecture. Considering that it is impossible to reconstruct the original educational landscape due to the scattered materials of this

period, this lecture book can be used as a series of general history books to reconstruct the actual situation of architectural education at that time and fill in the gaps in current research on Japanese architectural history. In this process, Waseda University was recognized to have responded to the request of the government in teaching and proposing a more practical approach to subjects of architectural education.

In Chapter 5, the influence of the *Waseda Architectural Lecture Notes* on the society was examined by comparing it with textbooks and a series of lecture books of external industrial education, and by investigating the qualifications and graduates regarding the employment of building construction.

Through the review of the standards for industrial architecture textbooks, it was confirmed that it was necessary to fulfill seven items of teaching details and one item of building regulations in terms of classification. *Waseda Architectural Lecture Notes* reorganized the seven subjects in the “Subject Details” and added its own “practical” education subjects to cover all the subjects, while retaining the Drawing section of the Ministry of Education, Science and Culture’s industrial education plan which was originally deleted by the Architectural Institute of Japan. At that time, it was considered essential to fulfill seven teaching details and one building law in terms of classification.

Among the three main architecture lecture books circulating in the society at that time, only the *Waseda Architectural Lecture* entirely fulfilled the standards for architecture textbooks in terms of classification and percentage of teaching. *Waseda Architectural Lecture Notes* coincided with the standard textbook development standards of the Architectural Institute of Japan, and that this series of the *Waseda Architectural Lecture Notes* was developed in response to the requirements of the Architectural Institute of Japan with a certain standardization.

The comparison was made between a single textbook of external industrial education and two series of books on architecture structure and architecture equipment written by Waseda University faculty members. It was found that the *Waseda Architectural Lecture Notes* were more specialized than those of external industrial education, and that the former was slightly more detailed in content and subject matter than the latter. The Lecture notes focused more on practical applications, while the commercially books emphasize more on concepts. The Lecture Notes can be regarded as a very **cutting-edge educational popularization** in Japan at that time.

From Shōwa 4th to Shōwa 17th, additions were made to the contents of the lecture notes about the calculation of heating and cooling in a building, as temperature and humidity control at the most comfortable level was a desirable feature of a building. These contents were included in the lecture notes of Shōwa 17th, **which fully reflected**

the requirements of the construction workers at that time.

It was found that as a textbook for industrial education, the *Waseda Architectural Lecture Notes* gave equal opportunity to those who wished to work in building construction at that time and increased their chances of passing the examination for graduation from an industrial school. It is difficult to know who the graduates were at that time, but it is known that they joined the Waseda Architecture Doukoukai, studied together and that examination seminars were held at that time. Members of the Waseda Architecture Doukoukai included Kakuei TANAKA, who studied architecture on his own while serving in Manchuria, using the *Waseda Architectural Lecture Notes*, and Soon-kyun HONG, an architect who left a significant mark on the design of church buildings in Korea. Compared to other textbooks of the same period, only the *Waseda Architectural Lecture Notes* was regularly mailed and sold abroad. Finally, compared to additional lecture notes and standard textbooks of the same period, the *Waseda Architectural Lecture Notes* were not only systematic, but were also distributed overseas, making them both unique in the society and university education system of the time, and international in character.

In conclusion, within the social and historical context of natural disasters and military disputes in the Shōwa Period, the *Waseda Architectural Lecture Notes* was **published 26 times from October 1929 (Shōwa 4th) to March 1944 (Shōwa 19th)** as a unique way to promote architectural education written by professors of architectural disciplines at Waseda University and published by Waseda University Press. The fundamental requirement that architecture engineers educated by the *Waseda Architectural Lecture Notes* should **be fully aware of the meaning of traditional construction skills, understand the essence and social significance of construction work itself, and strive for the scientific and technological modernization of its production methods. It is characterized by normality, social uniformity, flexibility, uniqueness, and internationality.**

A renaissance of architectural education surged post World War II, and within this wave various types and categories sprouted and developed. In our future work, we plan to analyze the educational contents of Waseda University Department of Architecture, and the Waseda Technical School in post-WWII education reconstruction.

References

In alphabetical order

- ARUSU. 1928. *ARUSU Architecture Lectures*. Tokyo: ARUSU.
アルス社. 1928. 『アルス建築大講座』. 東京: アルス社.
- Daikichi TAKI. 1888. *Kenchiku-gaku kōgi-roku*. Tokyo: KENCHIKU SHOIN.
瀧 大吉. 1888. 『建築学講義録』. 東京: 建築書院.
- Eizō INAGAKI. 1959. *Modern architecture in Japan and its founding process*.
Tokyo: MARUZEN PUBLISHING.
稲垣 栄三. 1959. 『日本の近代建築—その成立過程』. 東京: 丸善.
- Fumio MATSUNAGA. 2009. “A Study on the Establishment of Middle Level Education on Architecture in Japan: Through the Activities by the Ministry of Education and Architectural Institute of Japan, the Later Taishō-era and the Early Shōwa-era”. Fukuoka: KYUSHU UNIVERSITY.
松永 文雄. 2009. 「我が国における中等建築教育の確立に関する基礎的研究 : 大正末、昭和初期の文部省内と建築学会の検討活動を通じて 博士論文」.福岡 : 九州大学.
- Hanyang WANG and Masaki KOIWA. 2021. “A Historical Perspective of Architecture Education at Waseda University in Japan: Analyses of the Waseda Architecture Lecture Notes for Correspondence Education in the early Shōwa Period”. *Journal of Asian Architecture and Building Engineering*.
<https://doi.org/10.1080/13467581.2021.1903904>
王 漢陽 小岩 正樹. 2021. 「早稲田大学における建築教育の歴史的観点からの考察 : 昭和初期の通信教育用『早稲田建築講義録』の分析」
- Hiroyasu OGATA. 1980. *A study of the general history of Japanese education*. Tokyo: WASEDA UNIVERSITY PRESS.
尾形 裕康.1980. 『日本教育通史研究』. 東京:早稲田大学出版部.
- Hiroshi YAMAGUCHI. 1975. “History of Elementary and Secondary Architectural Education: Woodworking Education in the Meiji Period” *Journal of architecture and building science*, Vol.90: 1033-1036.
山口 廣. 1975. 「初等中等建築教育の歩み—明治期の木工教育—」 (建築雑誌) 第 90 卷.

- Hisao NAKAJIMA. 1987. “Transition of architectural education from the viewpoint of architectural lecture records in the Taishō and early Shōwa Period (1st session)” *Proceedings of Annual Conference of Japanese Society for Engineering Education* 1987: 3-4.
中島 久男.1987.「大正・昭和初期における建築講義録からみた建築教育の変遷について」1987年度 日本建築学会学術講演会: 3-4.

- Ikuo HIRAYAMA. 2018. “STUDY ON THE PUBLICATION OF “*KENTIKUGAKU-KOUGIROKU*” LECTURED BY *DAIKITI TAKI* AND *KOUGYO-YOGAKKO*” *Journal of Architecture and Planning (Transactions of AIJ)* 83 (752), 1999-2005. doi:10.3130/aija.83.1999
平山 育男.2013.「瀧大吉講述『建築学講義録』の刊行と工業夜学校について」日本建築学会計画系論文集（日本建築学会論文集） No.752: 1999-2005.

- ARCHITECTURAL INSTITUTE OF JAPAN. 1972. “Architectural education” *The modern Japanese architecture development history*. Tokyo: MARUZEN PUBLISHING.
日本建築学会.1972.「建築教育」『近代日本建築学発達史』. 東京：丸善出版.

- ARCHITECTURAL INSTITUTE OF JAPAN. 1972. “Construction Industry” *The modern Japanese architecture development history*. Tokyo: MARUZEN PUBLISHING.
日本建築学会.1972.「建設産業」『近代日本建築学発達史』. 東京：丸善出版.

- ARCHITECTURAL INSTITUTE OF JAPAN. 1938. *Architectural yearbook in Shōwa 13th*. Tokyo: MARUZEN PUBLISHING.
日本建築学会. 1938. 『昭和 13 年建築年鑑』. 東京: 丸善出版.

- ARCHITECTURAL INSTITUTE OF JAPAN. 1939. *Architectural yearbook in Shōwa 14th*. Tokyo: MARUZEN PUBLISHING.
日本建築学会. 1939. 『昭和 14 年建築年鑑』. 東京: 丸善出版.

- ARCHITECTURAL INSTITUTE OF JAPAN. 1940. *Architectural yearbook in Shōwa 15th*. Tokyo: MARUZEN PUBLISHING.
日本建築学会. 1940. 『昭和 15 年建築年鑑』. 東京: 丸善出版.

- ARCHITECTURAL INSTITUTE OF JAPAN. 1941. *Architectural yearbook in Shōwa 16th*. Tokyo: MARUZEN PUBLISHING.
日本建築学会. 1941. 『昭和 16 年建築年鑑』. 東京: 丸善出版.

- ARCHITECTURAL INSTITUTE OF JAPAN. 1942. *Architectural yearbook in Shōwa 17th*. Tokyo: MARUZEN PUBLISHING.
日本建築学会. 1942. 『昭和 17 年建築年鑑』. 東京: 丸善出版.
- Jōjitsu SATŌ. 1890. *History of Education in Japan*. Tokyo: MINISTRY OF EDUCATION, SCIENCE AND CULTURE.
佐藤 誠実. 1890. 『日本教育史』. 東京: 文部科学省図書館局.
- Keiichi SHIMIZU. 1981. “On the Elementary and Secondary Architectural Education at Early in the Meiji Era” *Journal of the Architectural Institute of Japan* 307: 142-150.
清水 慶一 .1981. 「明治期における初等・中等建築教育の史的研究」. 1981 年度 日本建築学会学術講演会: 142-150.
- Keiichi SHIMIZU. 1982. “On the Elementary and Secondary Architectural Education at Early in the Meiji Era”. Tokyo : NIHON UNIVERSITY.
清水 慶一 .1982. 「明治期における初等・中等建築教育の史的研究 博士論文」. 東京 : 日本大学.
- Kiyotaka HAYAMI. 2011. *Architects and Building Officials: One Hundred Years of Law and Housing*. Tokyo: UNIVERSITY OF TOKYO PRESS.
速水 清孝. 2011. 『建築家と建築士 : 法と住宅をめぐる百年』. 東京 : 東京大学出版会.
- KOGAKUIN UNIVERSITY. 1993. *Centennial History of Kogakuin University*. Tokyo: KOGAKUIN UNIVERSITY.
工学院大学. 1993. 『工学院大学百年史』. 東京: 工学院大学.
- KYOTO UNIVERSITY CENTENNIAL HISTORY COMPILATION COMMITTEE. 1997. *Centennial History of Kyoto University-Department History 2*. Kyoto: KYOTO UNIVERSITY.
京都大学百年史編纂委員会. 1997. 『京都大学百年史-学科史 2』. 京都: 京都大学.
- Kōichi SATŌ. 1912. “In Critical Review of the Technical Staff of High School Architecture” *Architectural World*. No.7.
佐藤 功一. 1912. 「高等学校建築の技術職員についての批判的考察」(建築世界) . No.7.
- MINISTRY OF EDUCATION, SCIENCE AND CULTURE. 1934. *Fifty Years of Industrial Education*. Tokyo: THE 50TH ANNIVERSARY OF INDUSTRIAL EDUCATION.
文部省実業学務局. 1934. 『実業教育五十年史』. 東京 : 実業教育五十周年記念会.

- Mayumi TSUNODA. 2019. *History of Architecture in the Meiji Period*. Tokyo: CHŪŌKOURON BIJUTSU SHUPPAN PUBLISHING.
角田 真弓. 2019. 『明治期建築学史』. 東京: 中央公論美術出版.

- MINISTRY OF EDUCATION, SCIENCE AND CULTURE. 1877. *A Brief History of Education in Japan*. Tokyo: MINISTRY OF EDUCATION, SCIENCE AND CULTURE.
文部科学省. 1877. 『日本教育史概説』. 東京: 文部科学省.

- NAGOYA INSTITUTE OF TECHNOLOGY. 2006. *Nagoya Institute of Technology's 100-year history of the Department of Architecture*. Nagoya: NAGOYA INSTITUTE OF TECHNOLOGY 100TH ANNIVERSARY OF THE FOUNDING OF THE DEPARTMENT OF ARCHITECTURE.
名古屋工業大学. 2006. 『名古屋工業大学工学部建築学科 100 年史』. 名古屋: 名古屋工業大学建築学科創立 100 周年記念誌.

- NIHON UNIVERSITY. 2000. *Centennial History of Nihon University*. Tokyo: NIHON UNIVERSITY.
日本大学. 2000. 『日本大学百年史』. 東京: 日本大学.

- Sanae TAKATA. 1909. “Lecture: Opening Ceremony”, *Waseda Gakuho*, No .171: 13-14.
高田 早苗. 1909. 「講演会: 開会式」『早稲田学報』 No.171: 13-14.

- Sanae TAKATA. 1911. “The purpose of the opening of the Waseda Technical School”, *Waseda Gakuho*, No .171:2.
高田 早苗. 1911. 「早稲田工手学校開校の趣旨」『早稲田学報』 No.196: 2.

- Sanae TAKATA. 1912. “To the students at the graduate school of science and engineering”, *Waseda Gakuho*, No .206: 2-6.
高田 早苗. 1912. 「理工系大学院の学生諸君へ」『早稲田学報』 No.206: 2-6.

- Seiroku ŌTA. 1933. “Notes by Seiroku ŌTA: The History of Japanese Architecture by Chūta ITŌ”.
太田 敬六. 1933. 「太田 敬六のノート: 伊藤忠太の日本建築史」

- Shirō MITSUHASHI. 1908. *Wayō Kaikaku Dai kenchiku-gaku*. Tokyo: ŌKURA SHOTEN.
三橋 四郎. 1908. 『和洋改良大建築学』. 東京: 大倉書店.

- Teijirō MURAMATSU. 1962 “Period Classification of the History of Japanese Architecture” *Proceedings of the Association of Architectural Institute of Japan*. No.76: 350.
村松 貞次郎. 1962. 「日本建築学史の時代区分について」 日本建築学会歴史・意匠系論文集 (日本建築学会論文集) No.76: 350.

- Teijirō MURAMATSU. 1959. *History of Japanese Construction Technology*. Tokyo: CHIJIN SHOKAN PUBLISHING.
村松 貞次郎. 1959. 『日本建築技術史』. 東京: 地人書館.

- Tachū NAITŌ. 1929. “On the occasion of the first publication of Waseda University’s architectural lecture” *Waseda University Architecture Lecture First Issue* (1).
内藤 多仲. 1929. 早稲田大学建築講義の発刊に際して 『早稲田大学建築講義創刊号』

- Tachū NAITŌ. 1932. *Newest Architectural Structures*. Tokyo: WASEDA UNIVERSITY PRESS.
内藤 多仲. 1932. 『最新建築構造』. 東京: 早稲田大学出版社.

- THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY. 1938a. *The future of industrial education in Japan*. Tokyo: THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY.
東京商工会議所. 1938a. 『日本における実業教育の将来性について』. 東京: 東京都商工会議所.

- THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY. 1938b. *Industrial education to cope with the current situation*. Tokyo: THE TOKYO CHAMBER OF COMMERCE AND INDUSTRY.
東京都商工会議所. 1938b. 『現状に対応した実業教育』. 東京: 東京都商工会議所.

- Takahide HORII. 2013. “The study of modern Japanese architectural education: A Case Study of Lecture Notes architecture school Waseda, Koshu Waseda and Waseda University school of Architecture” *Summaries of technical papers of annual meeting 2013*: 969-970.
堀井 隆秀. 2013. 「日本の近代建築教育の研究：早稲田大学建築学科・早稲田工手学校・早稲田建築講義録を事例として」 2013 年度日本建築学会大会(北海道)学術講演会・建築デザイン発表会: 969-970.

- THE WASEDA TECHNICAL SCHOOL. 1913. *Essentials of the Waseda Technical School*. Tokyo: THE WASEDA TECHNICAL SCHOOL.
早稲田工手学校. 1913. 『早稲田工手学校要覧』. 東京: 早稲田工手学校.

- Toshio TOYODA. 1982. *Industrial Education in the Early Days of Japan's Industrialization*. Tokyo: UNITED NATIONS UNIVERSITY.
豊田 俊雄. 1982. 『わが国の産業化と実業教育』. 東京: 国際連合大学.

- Toshio TOYODA. 1984. *Industrial Education of Japan's Industrialization*. Tokyo: UNITED NATIONS UNIVERSITY.
豊田 俊雄. 1984. 『わが国離陸期の実業教育』. 東京: 国際連合大学.

- TOKYO INSTITUTE OF TECHNOLOGY. 1985. *Centennial History of Tokyo Institute of Technology-Department History 1*. Tokyo: TOPPAN PRINTING CO., LTD.COMMERCE AND INDUSTRY.
東京工業大学. 1985. 『東京工業大学百年史-学科史 1』. 東京: 東京工業大学百年史委員会

- Tomoya KIKUOKA, 1995a, “The Development of the Construction Industry in Japan-4-The construction industry before the war-1” *Architectural product-engineering* No.369: 115-128
菊岡 俱也. 1995a. 「日本建設産業発達史-昭和戦前の建設産業」『施工: 建築の技術』 第 369 巻. 東京: 彰国社

- Tomoya KIKUOKA, 1995b, “The Development of the Construction Industry in Japan-5-The construction industry before the war-2” *Architectural product-engineering* No.370: 113-126
菊岡 俱也. 1995b. 「日本建設産業発達史-昭和戦前の建設産業」『施工: 建築の技術』 第 370 巻. 東京: 彰国社

- Tomoya KIKUOKA, 1995c, “The Development of the Construction Industry in Japan-6-The construction industry before the war-3” *Architectural product-engineering*: No.371: 117-134
菊岡 俱也. 1995c. 「日本建設産業発達史-昭和戦前の建設産業」『施工: 建築の技術』 第 371 巻. 東京: 彰国社

- TOUMON ARCHITECTURAL SOCIETY. 1960. “Roundtable Discussion (The Founding of the Department of Architecture at Waseda University)”, *Annual Journal of Tomon Architectural Society*: 139-158
稲門建築会. 1960. 「座談会 (早稲田大学建築学科の創設)」 『稲門建築年誌』:139-158

- Tatsutarō NAKAMURA. 1887. *Kenchigaku Kaitei*. Tokyo: YONEKURAYA SHOTEN.
中村 達太郎. 1887. 『建築学階梯』. 東京: 米倉屋書店

- Toshikata SANO, et al. 1932. *Higher Architecture*. Tokyo: JOBAN SHOBO.
佐野 利器. 1932. 『高等建築学』. 東京: 常磐書房

- UNIVERSITY OF TOKYO CENTENNIAL HISTORY COMPILATION COMMITTEE. 1984. *The Centennial History of the University of Tokyo. General History 1*. Tokyo: THE UNIVERSITY OF TOKYO PRESS.
東京大学百年史編纂委員会. 1984. 『東京大学百年史— 一般史 1』. 東京: 東京大学出版会.

- WASEDA UNIVERSITY ALUMNI ASSOCIATION. 1911. “Waseda University Report Issue” *Waseda Gakuho*, No. 200: 17.
早稲田大学校友会. 1911. 「早稲田大学報告書」『早稲田学報』.

- WASEDA UNIVERSITY ALUMNI ASSOCIATION. 1912. “Waseda University Report” *Waseda Gakuho*, No. 212: 19.
早稲田大学校友会. 1912. 「早稲田大学報告書」『早稲田学報』.

- WASEDA UNIVERSITY ALUMNI ASSOCIATION. 1921. “Waseda University Report” *Waseda Gakuho*, No. 332: 25.
早稲田大学校友会. 1921. 「早稲田大学報告書」『早稲田学報』.

- WASEDA UNIVERSITY PRESS. 1986. *Waseda University Press: A History of 100 Years*. Tokyo: WASEDA UNIVERSITY PRESS.
早稲田大学出版部. 1986. 『早稲田大学出版部 100 年の歴史』. 東京: 早稲田大学出版部.

- WASEDA UNIVERSITY. 1929. *Waseda University Architecture Lecture Notes Shōwa 4th -Suzuki Collection*. Tokyo: WASEDA UNIVERSITY PRESS.
早稲田大学. 1929. 『早稲田大学建築講義録』(昭和 4 年鈴木蔵書). 東京: 早稲田大学出版社.

- WASEDA UNIVERSITY. 1932. *Waseda University Architecture Lecture Notes Shōwa 7th - No Cover*. Tokyo: WASEDA UNIVERSITY PRESS.
早稲田大学. 1932. 『早稲田大学建築講義録』(昭和 7 年カバーなし). 東京: 早稲田大学出版社.

- WASEDA UNIVERSITY. 1940. *Waseda University Architecture Lecture Notes Shōwa 15th*. Tokyo: WASEDA UNIVERSITY PRESS.
早稲田大学. 1940. 『早稲田大学建築講義録 昭和 15 年』. 東京: 早稲田大学出版社.

- WASEDA UNIVERSITY. 1942. *Waseda University Architecture Lecture Notes Shōwa 17th*. Tokyo: WASEDA UNIVERSITY PRESS.
早稲田大学. 1942. 『早稲田大学建築講義録 昭和 17 年』. 東京: 早稲田大学出版社.

- Yasutada WATANABE. 1991. “History of the Department of Architecture, Faculty of Science and Engineering, Waseda University” *Waseda Architecture*: 12-19
渡辺 保忠.1991. 「早稲田大学工学部建築学科の歴史」『早稲田建築』: 12-19

List of Research Achievements

List of research achievements for application of Doctor of Architecture, Waseda University	
種類別 (By Type)	題名、発表・発行掲載誌名、発表・発行年月、連名者（申請者含む） (theme, journal name, date & year of publication, name of authors inc. yourself)
○論文	<p>Hanyang WANG, Masaki KOIWA, “A Historical Perspective of Architecture Education in Waseda University in early Shōwa period: Analyses of the Waseda Architecture Lecture Notes for Correspondence Education”, published in: JAABE - Journal of Asian Architecture and Building Engineering. (英文論文集- Architectural Institute of Japan). 13 Mar 2021. (https://doi.org/10.1080/13467581.2021.1903904)</p>
講演	<p>Hanyang WANG, Masaki KOIWA, “A Survey on the Materials in Architecture Lecture Notes of Waseda University” (Architectural Institute of Japan), Annual Meeting of Architectural Institute of Japan, Online, Lecture Number: 9137, July 2020.</p>
講演	<p>Hanyang WANG, Masaki KOIWA, “How Architecture Photography shaped the relationship between the expression of architectural space and the idea of architects—Through the subjects of Ishimoto Yasuhiro” (Architectural Institute of Japan), Annual Meeting of Architectural Institute of Japan, Hokuriku, pp.251-252, July 2019.</p>
講演	<p>Hanyang WANG, Masaki KOIWA, “Architectural exploration of colour schemes in cities: What Jinan could learn from developed countries” (Architectural Institute of Japan), Annual Meeting of Architectural Institute of Japan, Chugoku, pp.423-425, July 2017.</p>
講演 国際学会	<p>Hanyang WANG, Masaki KOIWA, “Understanding the color systems of architectural decorations in the Tang Dynasty through a comparison with those in the Nara Era” (International Symposium on Architectural Interchange in Asia). The 12th International Symposium on Architectural Interchanges in Asia- Confluence of Architecture in the Age of Super Connectivity, Pyeongchang, Korea, Oct 2018.</p>