

A Brief Introduction to Professional Fields of the Master's Degree of Engineering
(Second Edition)

汉英对照

工程硕士专业学位
授予领域简介

(第2版)

石来德 主编

Editor in Chief Shi Laide

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内 容 简 介

本书是根据全国工程硕士专业学位教育指导委员会拟订的研究课题“工程硕士学位授予工程领域名称规范化”组织编写的。全书共分为七部分:第一部分是授予工程硕士学位和培养工程硕士的38个工程领域中文简介(含摘要、概述、培养目标、领域范围及相关的学科、主要课程、论文要求等);第二部分和第三部分分别按领域和院校列出了授予工程硕士专业学位和培养工程硕士的高等学校中文名单;第四部分是有关工程硕士培养方案、学位授予的政策文件;第五部分是授予工程硕士学位和培养工程硕士的38个工程领域英文简介(含摘要、概述、培养目标、领域范围及相关的学科、主要课程、论文要求等);第六部分和第七部分分别按领域和院校列出了授予工程硕士专业学位和培养工程硕士的高等学校英文名单。

该书可供全国有工程硕士学位授予权的单位参考,对规范化培养工程硕士具有参考价值和指导意义。

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Synopsis

This book is edited according to the research subject "The Standardization of the Names of the Professional Fields of the Master's Degree of Engineering", which is drafted by the teaching guidance committee for the master's degree of engineering. This book is divided into seven parts altogether. The first part is the brief introduction in Chinese of 38 project fields in which master's degrees of engineering are awarded and masters of engineering are trained (including abstracts, program objectives, field scope and relevant disciplines, main courses, thesis requirements, etc). The second and the third parts give Chinese lists of institutions of higher education according to fields, universities and colleges respectively. The fourth part is the document of the policy about the training scheme for masters of engineering and degree conferral. The fifth part is the brief introduction in English of 38 project fields in which master's degrees of engineering are awarded and masters of engineering are trained. The sixth and seventh parts give English lists of institutions of higher education according to fields, universities and colleges respectively.

This book is a reference for the units authorized to confer the master's degree of engineering and has reference value and instructive significance for the standardization of training masters of engineering.

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第2版前言

《工程硕士专业学位授予领域简介》一书由清华大学出版社于2002年3月出版。出版后各校均以此作为参考,根据各校相关领域的培养对象、合作培养单位的要求及自身的条件制定各具特色的培养方案。各领域协作组也均以此作为参考制定各领域培养的共性要求。本书的组织者和编写者本想请各领域协作组就各领域简介进行修改,各协作组反映该简介基本框架和内容都是好的,可供参考。由于使用的时间尚不长,且仅供各校在制定培养方案时的参考,建议暂不修改。由于工程硕士专业学位教育积极开展国际合作,为宣传我国的工程硕士专业学位教育并有效地开展国际合作,全国工程硕士专业学位教育指导委员会希望将本领域简介全文译成英文。同时将新增的“生物工程”、“物流工程”、“项目管理”的简介增补进去,也在附录中将最近两年新增的工程硕士专业学位培养单位和各校新增的培养领域增补进去。

不少高校相关领域的教授参加了翻译工作,成文后,请同济大学的有关英文教师进行了校阅,对于他们的辛勤劳动深表谢意。考虑到译者水平各异,专业词汇理解不一,译文中定有不少不当之处,请大家在使用时指出,以便再版时修改。

编 者

2004年9月

Preface of Second Edition

First edition of "A Brief Introduction To Professional Fields of the Master's Degree of Engineering" was published in March 2002 by Tsinghua University Press. The relevant universities keep it for reference to make training scheme with their own characteristics, according to the training objectives of relevant fields, requirements of units cooperating in training and their own situations. Cooperative groups of the relevant fields keep it for reference to make general requirements of training in the field. The organizers and the compilers of this book initially expected much of all cooperative groups members to revise the brief introduction to the concerned fields, but the cooperative groups members identify that both the basic frames and the contents are good, suitable for consultation. In addition, it has not been used for long, and is only a reference in making the training scheme for the relevant universities, so they propose that we should not revise it now. Because international cooperation is sought actively in the professional education of the master's degree of engineering, in order to make known the professional degree education in our country and effectively launch international cooperation, the national educational guidance committee for the master's degree of engineering hopes

to translate the full text of this brief introduction to the relevant fields into English, and at the same time to subjoin the brief introductions to bioengineering, logistics engineering and project management which are newly added. And training units of masters of engineering which are newly added in the recent two years and training fields newly added of the relevant universities are also subjoined into the appendix.

Many professors of the relevant fields in the concerned universities and colleges took part in the translating work, and some teachers of English of Tongji University read and revised the texts. we acknowledge our deep gratitude for their diligent work. Considering that translators vary in their ability of translating, and they may have different understanding of technical terms, there should be many improprieties in the translation. You are expected to point them out while in use in order for us to revise it in future reprinting.

Editor

2004-09

第1版前言

根据全国工程硕士专业学位教育指导委员会关于开展工程硕士工程领域名称规范化研究的通知精神,由教育指导委员会秘书处会同国务院学位办商定,聘请石来德教授、王国荣教授、张满山教授、凌永祥教授、周煦炎教授、吴学东教授、朱德忠教授组成课题组,由石来德教授任组长。课题组第一次会议于2000年在同济大学召开,讨论了课题的研究内容和方式,认为工程硕士领域名称尽管有不少问题,但是,鉴于正处在试点阶段,很多不足之处还并没有摸清,不宜轻易改动,可根据现有名称写出领域简介,供大家在试点中参考,并在试点实践中逐步修改完善。领域简介包含领域定义及经济和社会作用、培养目标、领域范围及相关学科、主要课程的设置、学位论文的要求等,会议要求每个课题组成员提供一份领域简介初稿,供第二次会议讨论之用,以便形成一个可供参考的样稿。随后于2000年11月在浙江大学召开了第二次研讨会,审阅了每个人提供领域简介的初稿,大家认为初稿的框架基本相同,各有其长处和不足,可以取长补短,并且商定:由于培养模式基本相同且均参照相关文件精神写成,因此,将有关培养模式的叙述省略,由相关文件代替,作为附录放入书中,会上挑选数篇领域简介送交2000年12月在京召开的第二次教学指导委员会上审阅。委员们认为机械工程领域简介写得较好,可作为样稿印发给各编写单位参考。根据各校情况,课题组聘请清华大学等院校的相关学科负责人撰写了相关领域简介初稿,经修改后于2001年5月在西

安交通大学召开的研究生教育学会工科委员会上,印发给各相关院校征求修改意见。同年7月在大连舰艇学院召开了课题组第三次会议,根据各校修改意见进行了修改。会上还邀请了大连舰艇学院兵器工程和交通运输工程的有关教授以及清华大学、同济大学有关教授参加。

本领域简介原想全部翻译成英文,但由于尚不完善,故由石来德教授根据简介的内容写成摘要,并组织译成英文稿,摘要包含领域定义、培养目标和主要课程设置,译稿聘请在教学指导委员会秘书处工作的美籍学者进行修改,也请同济大学有关的英语教师进行了审阅。

在此,对高校的初稿撰写人、提出修改意见的教授、参与审阅的各位领导和专家致以谢意。

由于工程硕士各领域尚处于试点阶段,加上编写者的局限性和课题组成员水平有限,定有很多不当之处,因此,本书稿只能作为各学校的参考,各校可以根据自己情况,创造出高质量培养工程硕士途径和方式,并在实践中对本书涉及的工程领域简介提出修改意见。

编 者

2002年2月

Preface of First Edition

According to the notification of the National Educational Guidance Committee for the Master's Degree of Engineering about the research on the standardization of the names of the professional fields of the master's degree of engineering, through the negotiation between the educational guidance committee's secretariat and Degree Office of State Council, professors of Shi Laide, Wang Guorong, Zhang Manshan, Ling Yongxiang, Zhou Xuyan, Wu Xuedong and Zhu Dezhong are retained to make up a seminar, with Professor Shi Laide as the leader. The seminar held the first meeting in Tongji University in 2000, discussing research contents and ways of the subject and concluded that, in spite of many problems in names of the professional fields of the master's degree of engineering, allowing for such factors as being at pilot stage and many weak points not found out yet, changes should not be made easily, but a brief introduction to the fields can be written out according to the present names, to be consulted in the pilot project, and to be revised and perfected progressively in the pilot practice. The brief introduction to the fields includes definitions, economic and social functions of the fields, training objectives, field scope and relevant disciplines, arrangement of main courses, requirements for the academic

thesis, etc. This meeting required each group member to offer a first draft of a brief introduction to the fields, which could be used in the second meeting for discussion, in order to form a sample manuscript suitable for consultation. Later, the second meeting was held in Zhejiang University in November 2000, and checked first drafts offered on the brief introduction to the fields. The frames of the first drafts were considered basically the same and each draft had its advantages and disadvantages, so each could learn from others' strong points to offset its own weaknesses. The agreement was made; the narration about training modes was to be omitted and replaced by the relevant documents appendix to the book, because training modes were basically the same and compiled according to the relevant documents. This meeting selected several pieces of the brief introduction to the fields and delivered them for examine in the second meeting of the national educational guidance committee held in Beijing in December 2000. The committee members agreed that the brief introduction to mechanical engineering field was well written and could be a sample manuscript for all writers for reference. According to the situation of the relevant universities, the seminar engaged the staff in relevant disciplines of universities and colleges such as Tsinghua University, etc., to write the first draft of the brief introduction of relevant fields. The first revised draft was distributed to relevant universities and colleges to solicit suggestions for revision at the meeting of Industry Science Committee of Graduate Education Society held in Xi'an Transportation University in May 2001. The seminar's

third meeting was held in Dalian Naval Vessel Institute in July of the same year, and the draft was revised according to the suggestions for revision of the relevant universities. This meeting invited relevant professors of weapon engineering and traffic engineering of Dalian Naval Vessel Institute, and relevant professors of Tsinghua University and Tongji University to attend.

The brief introduction to the fields had been planned to be all translated into English, but, because it is still not perfect, only a summary is written according to the content of the brief introduction by professor Shi Laide, and translated into English with his organization. The summary includes field definition, training objectives and the arrangement of main courses. English summary is revised by the American scholars working in the secretariat of national educational guidance committee, checked and approved by the relevant English teachers of Tongji University.

Here, we would like to extend our gratitude to the people writing the first drafts, the professors giving suggestions for revision, the leaders and experts participating in examining and approving.

Because the professional fields of the master's degree of engineering are still at pilot stage, and due to the limitations of the writers and seminar members, there should be some improprieties in this book. This book can only be used as a reference to the relevant universities. According to their own situations, the relevant universities may create approaches and

modes of training masters of engineering with high quality, and put forward suggestions for revision to the brief introduction of the fields involved in this book in practice.

Editor

2002-02

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