**Agreement to Establish a Shared-Credit (3+2) Master's Program Between
The University of New Mexico, Albuquerque, NM, USA and
Beijing Institute of Technology, Zhuhai, China**

美国新墨西哥大学与中国北京理工大学珠海学院
学分共享(3+2)硕士合作项目协议书

The Regents of the University of New Mexico (UNM) located in Albuquerque, New Mexico, USA and **Beijing Institute of Technology, Zhuhai** (ZHBIT) located in Zhuhai, Guangdong, China agree to establish a Shared-Credit (3+2) Master's Degree called the UNM Global Engineering Scholars Program ("GES Program") as described below:

新墨西哥大学(位于美国新墨西哥州阿尔伯克基市, 以下简称 UNM) 和北京理工大学珠海学院(位于中国广东省珠海市, 以下简称 ZHBIT)协商签订学分共享(3+2) 硕士学位项目, 即 "新墨西哥大学全球工程类专业学者培养项目" (GES 项目)如下:

CLAUSE 1: PROGRAM OBJECTIVE
条款 1: 项目目标

The purpose of this Agreement is to establish a 3+2 Shared-Credit Program at the UNM School of Engineering (SOE-UNM) that allows ZHBIT students to count up to 6 hours of undergraduate or graduate credit towards both a Bachelor of Science (BS) degree from ZHBIT and a Master of Science (MS) degree from UNM. The goal is to provide a framework for exceptional undergraduate students enrolled at ZHBIT who seek a global educational and professional experience.

本协议旨在建立 UNM工学院(SOE-UNM)的 3+2 学分共享项目, 此项目允许 ZHBIT 学生在 UNM修读的最多 6 个学分的课程可同时用于 ZHBIT 的本科学位与 UNM的理科硕士学位。 此计划为 ZHBIT 的优秀本科在读生追求国际化教育及国际化专业阅历提供了一种可能的途径。

The objectives of the GES Program are:
GES 项目的目标为:

a. To encourage collaborative research and intellectual interaction between the parties through the activities of the participating students and their advisors; and
通过学生与其指导教授的参与鼓励两校之间的合作研究与智力互动

b. To educate students with rich and meaningful experiences across nations so they become competitive in a globalized market.
教授学生丰富而有意义的跨国经验使其能在全球化市场中富有竞争力

CLAUSE 2: PROGRAM ADMINISTRATION
条款 2: 项目管理

a. This program pertains to the UNM School of Engineering (SOE-UNM) and three associated schools of ZHBIT:

✧ School of Applied Science and Civil Engineering, ZHBIT (SASCE-ZHBIT)

✧ School of Mechanical Engineering, ZHBIT (SME-ZHBIT)

✧ School of Information Technology, ZHBIT (SIT-ZHMIT)

The program will be administered by a joint management committee, whose members are selected from the participating faculty from SOE-UNM, SASCE-ZHBIT, SME-ZHBIT, and SIT-ZHBIT..

此项目将适用于新墨西哥大学工学院与北京理工大学珠海学院以下的三个学院：

- ❖ 北京理工大学珠海学院数理与土木工程学院 (以下简称 SASCE-ZHBIT)
- ❖ 北京理工大学机械与车辆学院 (以下简称 SME-ZHBIT)
- ❖ 北京理工大学信息学院(以下简称 SIT-ZHBIT)

此项目将由新墨西哥大学工学院与北京理工大学珠海学院的数理与土木工程学院、机械与车辆学院和信息学院的院方组成联合管理委员会进行管理。

b. Each year, SASCE-ZHBIT, SME-ZHBIT, and SIT-ZHBIT will identify undergraduate students (before February 15 in their 3rd year) to apply to the GES Program. UNM's contact person at the UNM School of Engineering is responsible for evaluating interested students pre-selected by ZHBIT for admission into the 3+2 GES Program and notifying ZHBIT before March 15 in the students' 3rd year. Admitted students will start the GES Program in the fall semester.

北京理工大学珠海学院的数理与土木工程学院，机械与车辆学院，信息学院将于每年 2 月 15 日前选定申请进入 GES 项目的本科三年级学生。UNM工学院的联系人负责审核由 ZHBIT 预选进入 3+2GES 项目的学生，并将于 3 月 15 日前将录取结果通知 ZHBIT。被录取 GES 项目的学生将于当年秋季入学 UNM。

CLAUSE 3: STUDENT STATUS AND RESPONSIBILITIES
条款 3: 学生身份与责任

a. GES Program students must apply to UNM as international students and be admitted under the generally applicable academic requirements, financial standards, application deadlines, and language-proficiency requirements (see Appendix A) for international graduate students within each engineering department. Students may be accepted by UNM conditionally until they meet the language-proficiency requirements by attending the Center for English Language and American Culture (CELAC) program at UNM.

GES 项目的学生必须以国际学生的身份申请进入 UNM研究生项目，并需要满足工学院各系对于国际硕士生能力一般适用的学历要求、经济标准、申请期限、和语言能力的各项要求（见附录 A）。未达到上述要求的学生可由 UNM有条件录取，但需要参加新墨西哥大学提供的英语培训(CELAC)，直到满足学校对国际生的英语要求为止。

b. After the GES Program students' first year at UNM, their UNM credits (as listed in Appendix B) will be transferred back to ZHBIT to complete their BS degree requirements. The ZHBIT students are responsible for requesting ZHBIT's official transcripts, graduate certificates, degree certificates, and certified English translations of all these documents in one package express-mailed directly to the UNM International Admissions Office so that ZHBIT students may continue their studies for a UNM MS degree without interruption.

在 UNM的第一年末，GES 项目学生的 UNM学分（附录 B 中的互认课程）将被转回 ZHBIT 以首先获得 ZGBIT 颁发的大学本科学位证书与毕业证书，参加项目的学生需要将以下材料以国际快递的方式送交 UNM招生办公室：ZHBIT 的官方成绩单、毕业证书、学位证书、相对应的三份认证的英文翻译。如上述材料不齐全，ZHBIT 学生将不能继续他们在 UNM硕士学习，并最终不能获得 UNM的硕士学位证书。

c. GES Program students must be registered at ZHBIT on a full-time basis for three years and must complete ZHBIT undergraduate coursework equivalent to 90 UNM credit hours before starting their UNM undergraduate coursework.

GES 项目的学生前三年需在 ZHBIT 全日制就读并完成相当于 UNM 90 学分的课程方可开始 UNM的课程学习。

d. UNM's MS degree program requires at least 32 credits of courses, and each individual MS degree program has its own required curriculum. Up to 6 qualified credits can be shared between ZHBIT's BS degree and UNM's MS degree. UNM waives the GRE requirement for students applying to the GES Program.

UNM的硕士学位项目要求至少 32 个学分，每个硕士学位项目对于教学大纲都有自己的课程安排和学位要求。最多 6 学分符合要求的课程可同时用于 ZHBIT 的本科学位与 UNM的硕士学位。UNM同意参与 GES 项目的学生不需要提供 GRE 的成绩。

e. All admitted GES Program students must arrive to UNM at least one week before the start of the fall semester and will take 9-15 UNM credit hours. Students must meet all generally applicable UNM graduation requirements.

所有被录取的 GES 项目学生必须在 UNM秋季开学前一周到达 UNM,并需要每学期注册 9-15 UNM学分的课程。GES 项目的学生须满足 UNM一般适用的毕业要求.

CLAUSE 4: TUITION, FEES, AND OTHER EXPENSES
条款 4：学费和其他费用

a. Students admitted to the GES Program will pay ZHBIT tuition and mandatory student fees when enrolled at ZHBIT.

GES 项目学生在 ZHBIT 注册学习期间按 ZHBIT 的学费标准向 ZHBIT 缴纳学费。

b. Students admitted to the GES Program will pay UNM tuition and mandatory student fees when enrolled at UNM, which are set each semester for the upcoming academic year by the UNM Board of Regents and are posted at http://bursar.unm.edu/. Tuition and mandatory fees pay for the cost of instruction only, and do not pay for the separate cost of room and board.

GES 项目学生在 UNM注册学习期间需按 UNM国际学生的标准向 UNM缴纳学费，每学期前由 UNM校务委员会于 http://bursar.unm.edu/. 公布下一学年的具体费用。学费和其它官方费用为教学专用，不含个人的食宿费用。

c. Incoming students may apply to live in UNM's on-campus housing, but room availability is not guaranteed. Therefore, UNM will make good faith efforts as needed to help students obtain off-campus accommodation within reasonable proximity. UNM will provide all necessary information about housing options and application procedures with each student's notice of admission.

GES 项目的学生可申请住在 UNM 的校内住宿，但校内住房供应有限，无法满足所有学生的申请。因此，UNM将根据学生的需要,努力帮助学生在校园附近合理的范围内获得住宿。UNM将向每个被录取的学生提供有关住宿的选择和申请的程序。

d. ZHBIT students in the GES Program will have the same opportunity as other UNM international graduate students to apply for graduate assistantships or financial assistance at UNM, subject to applicable laws and policies.

在适用的法律和政策下，ZHBIT 的 GES 项目学生与 UNM国际学生享受同样机会去申请研究生助学金及其它助学金。

e. GES Program students must buy health and accident insurance that meets UNM requirements and is valid in the U.S.A. for their entire stay, including travel days. Students must pay any medical expenses that are not covered by insurance. This requirement can be waived for students whose own insurance coverage is reviewed and determined to meet UNM requirements.

GES 项目的学生须按 UNM要求为其在美期间（包括旅游期间）购买健康和意外保险。任何保险以外的医疗费用将由学生自行负担。若学生已有的保险覆盖经审核后满足 UNM的要求，此项规定可免除。

f.   Students shall pay for their own room and board, textbooks and course materials, travel, passport, visa, and personal expenses, plus any applicable special course fees, recreation fees, and the administrative fee charged to all incoming international students.
GES 项目的学生须自行负担其食宿费、课本与课程资料费用、旅游费用、护照费用、签证费用、个人消费以及其它的特殊课程费、娱乐费和学校向所有国际学生收取的行政费用。

CLAUSE 5: STUDENT VISA AND LEGAL COMPLIANCE
条款 5: 学生的签证和法律遵循

a.   UNM will issue necessary documents to apply for a student visa (normally, an admission letter, an I-20 and other related forms) to the students who satisfy the entry requirements of the GES Program. Students shall promptly provide all required documentation and other information needed in connection with their application for an F-1 visa or other student visa. However, whether or not a student will be granted student visa will be determined by the US Consulate visa office in China.
UNM将为满足录取要求的 GES 项目学生提供申请学生签证时所需的文件（通常是入学通知书，I-20 表和其他相关表格）。GES 项目的学生在申请来美 F-1 或其它签证时应及时提供所要求的全部文件与其它信息。但是，学生最终是否能获得签证将由在中国的美国领事馆签证处决定。

b.   Students shall comply with U.S. immigration law and other applicable laws.
GES 项目的学生必须遵循美国移民法与其他适用的法律。

CLAUSE 6：FACULTY EXCHANGE
条款 6: 师资交流

In order to promote the GES Program and make it sustainable, faculty exchange and collaboration will be encouraged between UNM and ZHBIT. The Parties will help to arrange faculty visits to departments or research units. Neither UNM nor ZHBIT will charge fees to visiting faculty for office space, computer usage, lab access, or other resources typically used by host university faculty in the performance of their normal duties. Visiting faculty will be responsible for paying all their travel, visa, and living expenses personally or from sources that they arrange.
为促进 GES 项目的持续发展，双方鼓励师资学术交流与合作，双方将协助安排访问教师去各相应系或研究单位交流、学习和进修，并免收双方访问教师在对方学校学术进修的费用。进修访问教师的食、行、宿费与签证费自理。

CLAUSE 7: WITHDRAWALS FROM THE PROGRAM
条款 7：退出 GES 项目

a.   Students working to complete a four-year BS degree at ZHBIT who withdraw from the GES Program may transfer the credits they earn at UNM to ZHBIT and apply them to their ZHBIT BS degree.
GES项目的学生如中途退学，仍能将在UNM完成的学分转回ZHBIT以完成ZHBIT四年的本科学位。

b.   Students who do not make satisfactory academic progress may be dismissed from the GES Program in accordance with UNM policies. UNM's contact person will inform ZHBIT of these policies.
根据UNM的政策规定，学生如不能满足UNM的学术要求将不允许继续留在GES 项目，UNM方的联络人将告知ZHBIT有关规定。

CLAUSE 8: PROGRAM REVIEW
条款 8：项目审核

SOE-UNM and ZHBIT agree to review the progress of this GES Program and suggest any needed modifications to the Program and/or this Agreement three years after its effective date, and every three years thereafter.

UNM工学院和 ZHBIT 的数理与土木工程学院、机械与车辆学院和信息学院将在此项目生效三年后对本项目及/或本协议进行评估并提议所需修改，之后每三年评估一次。

CLAUSE 9: ADDITIONAL TERMS
条款 9：附加项

a.   This Agreement will become effective upon signing by both parties for an initial term of five (5) years and shall automatically renew for successive five-year terms unless terminated as provided below.
本协议自双方签字之日起生效，有效期五年，协议到期后可由双方再次续订为期 5 年的协议除非协议被终止。

b.   This Agreement may be amended and/or modified in a writing signed by the parties' duly authorized representatives. However, the joint management committee may modify Appendix B as needed from time to time in the normal course of the committee's oversight of academic requirements without the need to modify the clauses of this agreement.
该协议经双方书面同意后可以作修正或修改。然而，联合管理委员会可根据需要在委员会监管学术要求的正常过程中修改附录 B，而不需要修改本协议的条款。

c.   Either party may terminate this Agreement by giving the other party at least six (6) months' written notice, but any ZHBIT students who have already been accepted at UNM will not be affected and will be allowed to complete their studies, subject to any applicable UNM policies governing the time period for degree completion.
签约的任何协议方提前半年以上以书面形式通知对方后可以终止本协议。但是，本协议的终止不会影响现有从 ZHBIT 录取入 UNM 参加项目的学生，直至获得硕士毕业证书和学位证书。

d.   Nothing in this Agreement, express or implied, is intended to confer any rights, remedies, claims or interests upon a person not a party to this Agreement.
这份协议，无论是其明确的表达还是所暗示的内容，都没有赋予任何人或者任何协议方对此协议行使任何权利、修正、索赔或者获利。

e.   This Agreement is signed in good faith and in accordance with the administrative rules and procedures governing each party. Therefore, any dispute that may arise concerning its interpretation and implementation will be resolved amicably through negotiations.
本协议是善意并按照双方行政管理规则签署。因此，可能出现的有关解释和执行的任何争议将通过友好协商解决。

f.   This Agreement may be executed in two or more counterparts, each of which together shall be deemed an original, but all of which together shall constitute one and the same instrument. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or ".pdf" signature page were an original thereof.
此协议原本可由双方对应执行。若任何签名是通过传真发送，或通过电子邮件的 PDF 格式传递，执行方将认为这种签名与原本同样有效且有约束力。

Both institutions declare the following addresses and contact persons for purposes of this Agreement:
两校公布以下联系人及其联系方式，可通过此方式商讨协议有关事宜：

BEIJING INSTITUTE OF TECHNOLOGY, ZHUHAI

Dr. Yong You
Academic Associate Dean of SASCE
School of Applied Science and Civil Engineering
No.6 Jinfeng Rd, Tangjiawan, Zhuhai,
Guangdong, 519088, P.R.China
Tel: +86-756-3622921
Email: yoyo_076@yeah.com
游泳 博士，学术副院长
数理与土木工程学院
北京理工大学珠海学院

Ms. Dandan Luo
School of Mechanical Engineering
No.6 Jinfeng Rd, Tangjiawan, Zhuhai,
Guangdong, 519088, P.R.China
Tel: +86 756 3622883
Email: bi_xiao@163.com
罗丹丹女士
机械与车辆学院
北京理工大学珠海学院

Prof. Kai Zhang
School of Information Technology
Zhixing Building ZB307知行楼ZB307
No.6 Jinfeng Rd, Tangjiawan, Zhuhai,
Guangdong, 519088, P.R.China
Tel: +86 756 3622323
Email: zhangkaibnu@126.com
张凯教授
信息学院
北京理工大学珠海学院

UNIVERSITY OF NEW MEXICO

Dr. Wei Wennie Shu 博士
Associate Dean for Graduate Recruiting
MSC01 1140
1 University of New Mexico
Albuquerque, NM 87131-0001 U.S.A.
Tel: +1-505-277-1433
Email: wshu@unm.edu
工学院副院长，研究生招生
美国新墨西哥大学

This document memorializes the parties' entire agreement. This Agreement is written in English and translated into Chinese paragraph by paragraph. Any conflict between the English and Chinese texts will be resolved in favor of the English text. The parties shall sign two (2) originals of this Agreement, all contents being identical and equally valid. Each party shall retain one original.

此协议由英文书写，并逐段译为中文，如有争议则以英文为准。双方需签署 2 份内容一致并具有同等效力的正本。双方各执一份正本。

Beijing Institute of Technology, Zhuhai, China

Regents of the University of New Mexico, USA

Dr. Taoguang Wang, 王韬光 博士,　　　　Date
Chairman of Board of Trustees,
Beijing Institute of Techonology, Zhuhai
董事会董事长　　　　　　　　　　　　　日期
北京理工大学珠海学院

Dr. Robert G. Frank, President　　　　　Date
Robert G. Frank 博士　　　　　　　　　日期
校长
美国新墨西哥大学

Dr. Siqin Pang　　　　　　　　　　　　Date
Executive Vice President For Academic Affairs
庞思勤博士　　　　　　　　　　　　　　日期
常务学术副校长
北京理工大学珠海学院

Dr. Chaouki Abdallah, Provost　　Oct 28/15 Date
and Executive Vice President for Academic Affairs
Chaouki Abdallah 博士　　　　　　　　日期
教务长兼学术副校长
美国新墨西哥大学

Dr. Hongbo Sun　孙洪波博士　　　　　Date
Dean, School of Applied Science and Civil
Engineering
数理与土木工程学院 院长　　　　　　　日期
北京理工大学珠海学院

Dr. Joseph Cecchi　　　　　　5-11-2015 Date
Dean, School of Engineering
Joseph Cecchi 博士，工学院院长　　　　日期
美国新墨西哥大学

Dr. Yonghe Jiao　焦永和博士　　　　　Date
Dean, School of Mechanical Engineering
机械与车辆学院 院长　　　　　　　　　日期
北京理工大学珠海学院

Dr. Binghua Su 苏秉华博士　　　　　　Date
Dean, School of Information Technology
信息学院院长　　　　　　　　　　　　　日期
北京理工大学珠海学院

APPENDIX A
附件 A

UNM School of Engineering
新墨西哥大学-工程学院
Language-Proficiency Requirements for International Graduate Students[1]
国际研究生语言要求

International students must demonstrate English language proficiency. To demonstrate English proficiency, students can take: the International English Language Testing System (IELTS), the Test of English as a Foreign Language (TOEFL), or Cambridge CPE or CAE.
国际学生必须在入学前提供语言水平证明。学生可以参加：雅思考试，托福考试，或者剑桥国际英语水平考试（CPE 或 CAE）.

Minimum score requirements are listed in the table below. Official test results must be sent directly to the University of New Mexico. The TOEFL code for UNM is 4845.
下表中列出最低英语水平要求。官方考试成绩单必须直接邮寄至新墨西哥大学。新墨西哥大学的托福考试代码为 4845.

	Paper Test 纸考	Computer Test 机考	IBT 新托福考试
Graduate TOEFL 研究生 托福考试	550	213	79-80
Graduate IELTS 研究生 雅思考试	6.5	6.5	6.5

The CPE or CAE test may also be accepted with a satisfactory score of C.
剑桥国际英语水平考试（CPE 或 CAE）的成绩达到 C 也可接受。

Exceptions to the English Proficiency Test Requirements (only one exception required):
英语水平要求的例外情况（只需满足一种条件）：
- Completion of four years of US high school with a 2.5 GPA or better
- 完成四年美国高中教育，并且 GPA 达到 2.5 及以上
- Bachelor's or graduate degree from an accredited institution in the United States, English-speaking Canada, the United Kingdom, South Africa, Australia, or New Zealand.
- 本科或任何研究生阶段学历于英语国家——美国、加拿大、英国、南非、澳大利亚或新西兰——之被认可学校获得
- SAT Verbal score of 480 or better (test not REQUIRED for admission)
- SAT 口语成绩为 480 分及以上（该项考试不是录取的必要考试项目）
- 1 year of full-time study (minimum 24 credit hours) at a regionally-accredited US college or university with a 3.0 GPA or higher completed within the last two years
  过去两年内，在美国地区认可的学院或大学完成一年全日制学习（最少 24 学时），并且 GPA 达到 3.0 及以上
- Completion of two semesters of freshman English composition (English 101 and 102 equivalent) with a GPA of 2.0 or higher at a regionally- accredited U.S. college or university.

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[1] http://geo.unm.edu/admission_grad_requirements.html

- 在美国地区认可的学院或大学内，完成两个学期的新生英语作文课程（与英语 101 和 102 水平等同），并且达到 GPA2.0 及以上
- Bachelor's degree from a regionally-accredited US college or university
- 于美国地区认可的学院或大学获得本科学历
- Attendance in the Center for English Language and American Culture (CELAC) program at UNM with a passing Institutional TOEFL score and a recommendation from the CELAC program director
- 参加过新墨西哥大学英语语言与美国文化（CELAC）中心项目，通过学院要求的托福考试并且得到项目主管的推荐

APPENDIX B
附件 B

UNM School of Engineering 新墨西哥大学工学院
Junior, Senior Level Courses for Undergraduate/Graduate Students
3, 4 年级面对本科与 1 年级研究生课程

B.1: Electrical and Computer Engineering 电气与计算机工程系

Course #	Title	Prerequisites	Course # for Graduate Credit
ECE412	Intro to Computer Graphics 计算机图形学概论	ECE331	
ECE421	Analog Electronics 模拟电子学	ECE322L	ECE523
ECE424	Digital VLSI Design 数字 VLSI 设计	ECE321L, ECE338	*
ECE432	Introduction to Parallel Processing. 并行处理概论	ECE331	*
ECE435	Software Engineering. 软件工程	ECE331, ECE335	
ECE437	Computer Operating Systems 计算机操作系统	ECE330	*
ECE438	Design of Computers 计算机设计	ECE344L, ECE338	*
ECE439	Intro to Digital Signal Processing 数字信号处理概论	ECE314	*
ECE440	Intro to Computer Networks 计算机网络概论	ECE330, ECE340	*
ECE442	Intro to Wireless Communications 无线通信概论	ECE314, ECE360	*
ECE443	Hardware Design with VHDL VHDL 硬件设计	ECE338	*
ECE446	Design of Feedback Control Systems 反馈控制系统设计	ECE345	*
ECE460	Introduction to Microwave Engineering 微波工程基础	ECE360	ECE560
ECE456	Entrepreneurial Engineering 创业工程		
ECE463	Advanced Optics 高级光学	PHYC302	*
ECE464	Laser Physics 激光物理	ECE360	*
ECE469	Antennas for Wireless Communication Systems 无线通信系统天线	ECE360	ECE569
ECE471	Materials & Devices II. 材料与器件 II	ECE360, ECE371	
ECE474	Microelectronics Processing 微电子加工		
ECE475	Intro to Electro-Optics & Opto-Electronics 电子光学与光电子概论	ECE371	ECE574
ECE482	Electric Drives & Transformers 电气传动和变压器	ECE203, ECE213	ECE582
ECE483	Power Electronics 电力电子学	ECE321L, ECE371, ECE381	ECE583
ECE484	Photovoltaics 光伏学	ECE381, MATH121	ECE584
ECE488	Smart Grid Technologies 智能电网技术	ECE381, ECE482, ECE483, ECE484	ECE588
ECE314	Signals & Systems. 信号与系统		
ECE321L	Electronics I. 电子学 I		
ECE322L	Electronics II. 电子学 II		
ECE330	Software Design 计算机软件设计		
ECE331	Data Structures & Algorithms 数据结构和算法		

Course #	Title	Prerequisites	Course # for Graduate Credit
ECE335	Integrated Software Systems 计算机软件系统综合		
ECE338	Intermediate Logic Design 中级逻辑设计		
ECE340	Probabilistic Methods in Engineering 工程概率方法		
ECE341	Intro to Communication Systems 通信系统概论		
ECE344L	Microprocessors 微处理器		
ECE345	Intro to Control Systems 控制系统概论		
ECE360	Electromagnetic Fields & Waves 电磁场和电磁波		
ECE371	Materials & Devices 材料与器件		
ECE381	Intro to Electric Power Systems 电力系统概论		

*Indicates a 400-level course that counts for graduate credit.*表示此 400 级的课程是被认可为研究生学分。

B.2: Computer Science 计算机科学系

Course #	Title	Prerequisites	Course # for Graduate Credit
CS412	Intro to Computer Graphics 计算机图形学概论	CS361L	
CS422	Digital Image Processing 数字图像处理	MATH314 or MATH321	CS522
CS423	Intro to Complex Adaptive Systems 复杂系统概论	CS251L, MATH163	
CS427	Principles of Artificially Intelligent Machines 人工智能原理	CS351L	CS527
CS429	Intro to Machine Learning 机器学习概论	CS362, STAT345, MATH314	CS529
CS442	Intro to Parallel Processing 并行处理概论	CS481	*
CS444	Intro to Cybersecurity 网络安全概论		CS544
CS454	Compiler Construction. 编译原理		CS554
CS456	Advanced Declarative Programming 高级陈述式编程	CS357L	CS556
CS460	Software Engineering 软件工程		
CS464	Intro to Database Management 数据库管理概论		CS564
CS471	Intro to Scientific Computing 科学计算概论		*
CS473	Physics & Computation. 计算与物理		CS573
CS481	Computer Operating Systems. 计算机操作系统	CS341L	
CS485	Introduction to Computer Networks 计算机网络概论		
CS494	Advanced Topics in Computer Generated Imaging 高级计算机影像生成		
CS341L	Intro to Computer Architecture & Organization 计算机结构与组成原理		
CS351L	Design of Large Programs 大型程序□□		
CS357L	Declarative Programming 陈述式编程		
CS361L	Data Structures & Algorithms 数据□构和算法		
CS362	Data Structures & Algorithms II. 数据□构和算法 II		
CS365	Introduction to Scientific Modeling 科学建模概论		

CS375	Introduction to Numerical Computing 数□□算		
CS394	Computer Generated Imagery & Animation □算机□像和□画生成		

B.3: Civil Engineering 土木工程系

Course #	Title	Prerequisites	Course # for Graduate Credit
CE411	Reinforced Concrete Design 钢筋混凝土设计	CE308	CE511
CE413	Timber & Masonry Design 木结构及砌体设计	CE310	CE513
CE424	Structural Design in Metals 金属结构设计	CE308	CE524
CE431	Physical-Chemical Water & Wastewater Treatment 物理化学水及废水处理	ME301 or CHNE302	CE531
CE433	Environmental Microbiology 环境微生物学	CHEM 122	CE533
CE435	Water Reuse 废水利用		CE535
CE436	Biological Wastewater Treatment 废水生物处理	CE335	CE536
CE438	Sustainable Engineering 可持续工程学		CE538
CE440	Design of Hydraulic Systems 液压系统设计	CE331	CE540
CE441	Hydrogeology 水文地质学	ME320L & ME380 & ME459	CE541
CE442	Hydraulic Engineering & Hydrology 水利工程和水文学	CE331 & MATH162	*
CE455	Engineering Project Management 工程项目管理		*
CE462	Foundation Engineering I 基础工程学 I	CE360	CE562
CE463	Earth Structures. 大地结构学		CE563
CE473	Construction Law 建筑法	CE376 & CE377 & ENGL219	CE573
CE474	Principles of Written Construction Documents 施工文档书写准则	CE376 & CE377 & ENGL219	CE574
CE475	Construction Safety 施工安全学	CE376 & CE377 & ENGL219	CE575
CE477	Project Controls 项目控制原理	CE376 & CE377	CE577
CE478	Design of Temporary Support Structures 临时支护结构设计	CE308 or CE371	CE578
CE481	Urban Transportation Planning 城市交通规划		CE581
CE482	Highway & Traffic Engineering 公路和交通工程	CE382	CE582
CE302	Mechanics of Materials 材料力学		
CE305	Infrastructure Materials Science 基建材料科学	CE302 or CE371	
CE308	Structural Analysis 结构分析	CE302 & CE305	
CE310	Structural Design I. 结构设计 I	CE308	
CE331	Fluid Mechanics 流体力学		
CE335	Environmental & Water Resources Engineering 环境与水资源工程	CE331	
CE350	Engineering Economy 工程经济学		
CE352	Computer Applications in Civil Engineering. 土木工程计算机辅助应用		
CE354	Probability & Statistics for Civil Engineers 土木工程概率与统计学		CE554
CE360	Soil Mechanics 土壤力学	CE302	

Course #	Title		
CE370	Construction Methods & Equipment 施工方法及设备		
CE371	Structures for Construction 施工结构学		
CE372	Principles of Construction 施工准则		
CE376	Cost Estimating 成本估算		
CE377	Construction Scheduling 施工进度规划		
CE382	Transportation Engineering 交通工程		

B.4: Mechanical Engineering 机械工程系

Course #	Title	Prerequisites	Course # for Graduate Credit
ME400	Numerical Methods in Mechanical Engineering 机械工程数值算法	ME317L & ME320L & CE302 & MATH 316	ME500
ME401	Advanced Mechanics of Materials 高级材料力学	CE302	ME501
ME404	Computational Mechanics 计算力学	MATH312 & CS151L	ME404
ME405	High Performance Engines 高性能发动机	ME301 or CHNE302	ME505
ME416	Applied Dynamics 应用动力学	ME306 & ME357 & MATH 316	ME516
ME419	Theory, Fabrication, & Characterization of Nano & Microelectromechanical Systems 纳米与微机电系统理论，制造及测量		ME519
ME429	Gas Dynamics 气体动力学	ME301 & ME317L	ME529
ME455	Engineering Project Management 工程项目管理		
ME459	Mechanical Engineering Design IV 机械工程设计 IV	ME360L & ME370L	
ME460	Mechanical Engineering Design V 机械工程设计 V	ME320L & ME380 & ME459	
ME471	Advanced Materials Science 高级材料科学		ME571
ME480	Dynamic System Analysis 动力系统分析	ME380 & (MATH 314 or MATH321)	ME580
ME481	Digital Control of Mechanical Systems 机械系统数字控制	ME380	ME581
ME482	Robot Engineering 机器人工程		ME582
ME485	Modern Manufacturing Methods 现代制造方法		ME585
ME486	Design for Manufacturability 可制造性设计		ME586
ME301	Thermodynamics 热力学	ME301	
ME302	Applied Thermodynamics 应用热力学		
ME306	Dynamics. 动力学		
ME314	Design of Machinery 机构设计	ME306	
ME317L	Fluid Mechanics 流体力学		ME301
ME318L	Mechanical Engineering Laboratory 机械工程实验		
ME320	Heat Transfer 热传导		
ME350	Engineering Economy 工程经济学		
ME357	Intro to Mechanical Vibrations. 机械振动概论	ME306	
ME306L	Mechanical Engineering Design III 机械工程设计 III		
ME365	Heating, Ventilating & Air Conditioning Systems, 空	ME302L	

Course #	Title	Prerequisites	Course # for Graduate Credit
	调冷暖气与通风系统		
ME370	Engineering Materials Science 工程材料科学		
ME380	Analysis & Design of Mechanical Control Systems 机械控制系统的分析与设计		

B.5: Chemical and Biological Engineering 化学与生物工程系

Course #	Title	Prerequisites	Course # for Graduate Credit
CBE403	Heterogeneous Catalysis Seminar 多相催化研讨		CBE503
CBE404	Nanomaterials Seminar 纳米材料研讨		CBE504
CBE406	Bioengineering Seminar 生物工程研讨		CBE506
CBE412	Characterization Methods for Nanostructures 纳米结构测量法		CBE512
CBE417	Applied Biology for Biomedical Engineers 应用生物学	CBE361, BIOL201L	CBE517
CBE418L	Chemical Engineering Laboratory III 化工实验 III	CBE312, CBE321	
CBE419L	Chemical Engineering Laboratory IV 化工实验 IV.	CBE465	
CBE447	Biomedical Engineering Research Practices. 生物医学工程研究实践		CBE547
CBE454	Process Dynamics and Control. 过程的动态与控制	CBE317	
CBE461	Chemical Reactor Engineering.反应堆工程	CBE311, CBE317	
CBE472	Biomaterials Engineering 生物材料工程		CBE572
CBE477	Electrochemical Engineering 电化学工程	CBE302	CBE577
CBE479	Tissue Engineering 组织工程		CBE579
CBE486	Introduction to Statistics and Design of Experiments 实验设计和统计概论		CBE586
CBE493L	Chemical Engineering Design 化学工程设计	CBE253, CBE302, CBE312, CBE321	
CBE494L	Advanced Chemical Engineering Design 高级化学工程设计	CBE493L	
CBE302	Chemical Engineering Thermodynamics 化工热力学	CBE251	
CBE311	Introduction to Transport Phenomena 穿递过程原理	CBE253	
CBE312	Unit Operations 化工单元操作	CBE311	
CBE317	Numerical Methods for Chemical and Biological Engineering 化学与生物工程数值方法	CBE253	
CBE318L	Chemical Engineering Laboratory I. 化工实验 I	CBE253,CBE302	
CBE319L	Chemical Engineering Laboratory I. 化工实验 II	CBE318	
CBE321	Mass Transfer 分离工程	CBE253 and CBE311	
CBE361	Biomolecular Engineering 生物分子工程	ECE203, ECE213	ECE582
CBE371	Introduction to Materials Engineering 材料工程概论	ECE321L, ECE371, ECE381	ECE583

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