



西南石油大学化学工程与工艺专业 The Engineering Education of SWPU

Chemical engineering and chemical technology discipline (CECT)





培养目标 Objective

学校对本科人才培养目标定位：坚持以学生发展为本的教育理念，面向经济社会发展和国家建设对人才的需求，培养具有综合素质高、知识结构好、创新意识浓、实践能力强和国际视野宽的高素质人才

Objective of SWPU:

The development of student is the essential of education.

Graduates can meet social and economic requirements:

Comprehensive quality

Widely knowledge

Innovative

Practical

International view



培养目标 Objective

专业培养目标 Objective of CECT discipline education :

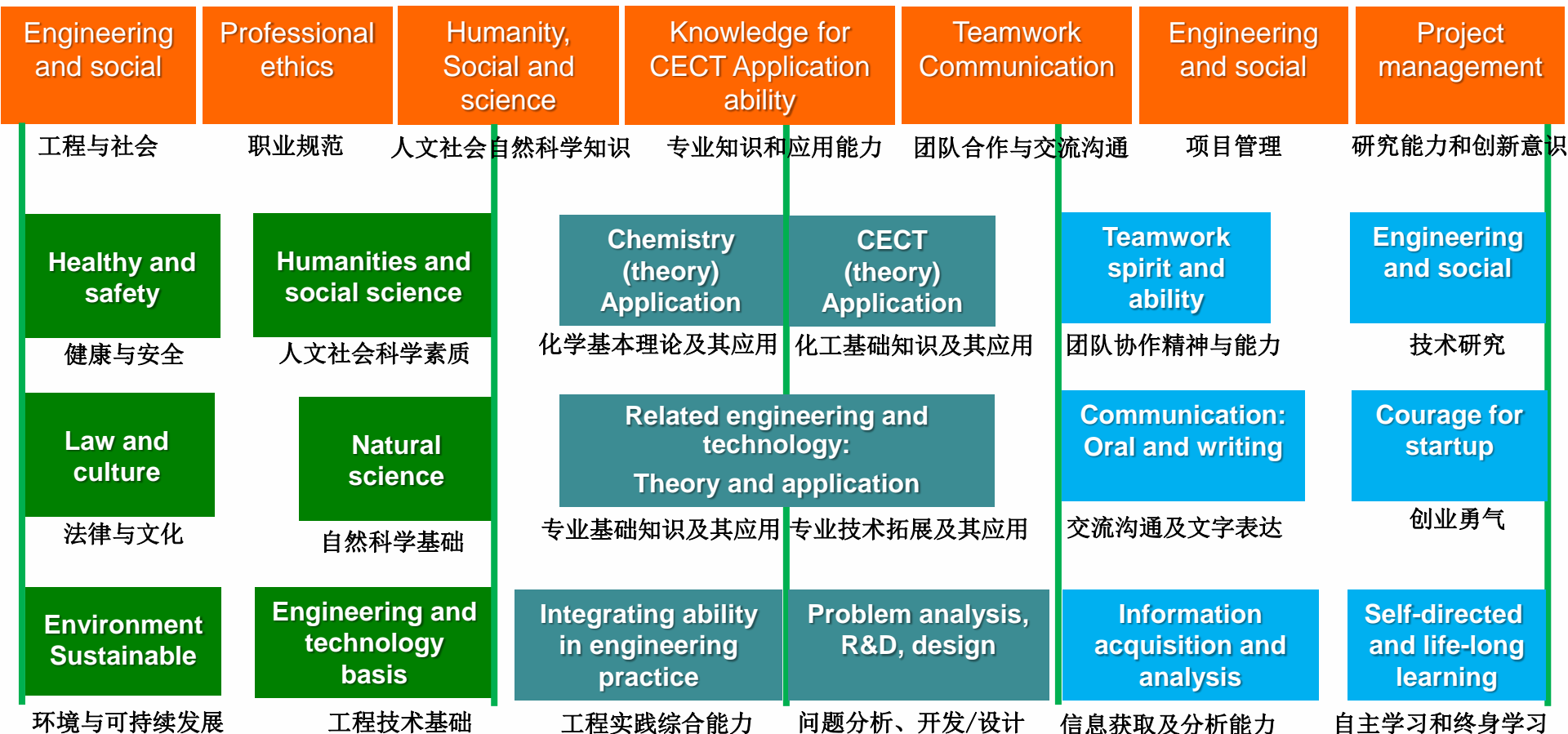
- ✓ 培养具备化学工程与化学工艺方面的**基本理论和知识**
Handle basic theory and knowledge of CECT
- ✓ 掌握化工工艺和设备设计以及化工过程模拟的**基本方法**
Handle general design and simulation methods for CECT
- ✓ 熟悉石油天然气加工和其他化工过程工艺及设备
Familiar with oil gas processing, other chemical processing and facilities
- ✓ 了解本学科和行业最新前沿技术进展
Know the front of CECT development both in scientific and industrial
- ✓ 具有一定的**实践经验和创新意识**
Have innovative mind and practice experience
- ✓ 能在石油炼制、石油化工、天然气处理与加工、轻工、环保和军工等部门从事工程设计、技术开发、生产技术管理和科学研究等方面工作的工程技术人才
Work in petroleum refinery, petrochemical, natural gas processing, chemical, environmental and military industries: Design, R&D, management



毕业要求 Graduation Requirement

Qualified graduates

化工专业工程技术人才



Knowledge level

专业知识水平

Practice ability

专业实践能力

Social skill

社会能力



课程体系 Course System

化学工程与工艺专业教学体系

General education curriculum

- Moral cultivation and legal basis
- PE group
- English Foreign language group
- Fundamentals of computer
- C language program design
- Oil regulation and international cooperation

Basic courses of discipline

- Mechanical basis of chemical equipment
- Principles of chemical engineering
- Chemical engineering thermodynamics
- Industrial catalysis
- Chemical reaction engineering
- Chemical instrumentation and automation
- Professional English
- Science and technology literature retrieval

Practical courses

- Engineering cognition practice
- Training of mechanical manufacturing
- Design of chemical engineering principles
- Production training
- Engineering design
- Graduation project or thesis

Basic courses

- Advanced mathematics
- Physics Linear algebra
- Inorganic and analytical chemistry
- Organic chemistry Instrumental analysis
- Physical chemistry
- Fundamentals of engineering drawing

Professional and special courses

- Chemical separation engineering
- Chemical safety and environmental protection
- Chemical engineering design and software
- Petroleum refining engineering
- Natural gas processing engineering
- Petroleum engineering technique
- Petroleum refining additive
- Progress in chemical technology of oil and gas

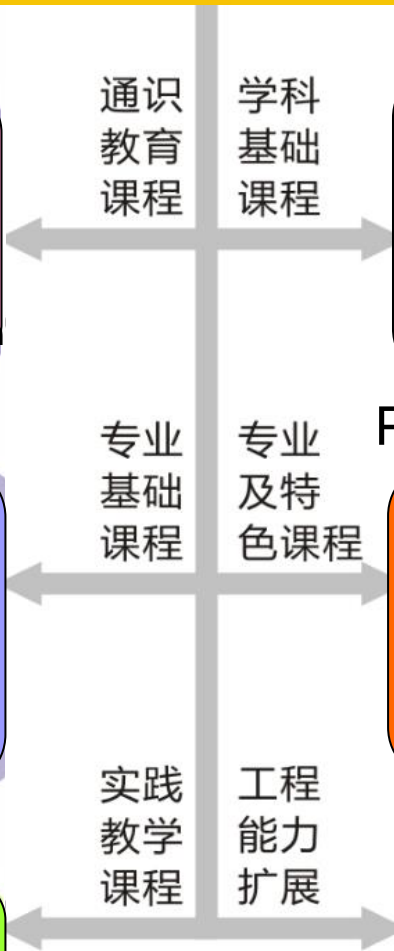
Engineering capacity extension

- Creative and open experiment
- Extracurricular scientific activities
- Chemical design competition
- Total chemical safety design competition

通识教育课程
学科基础课程

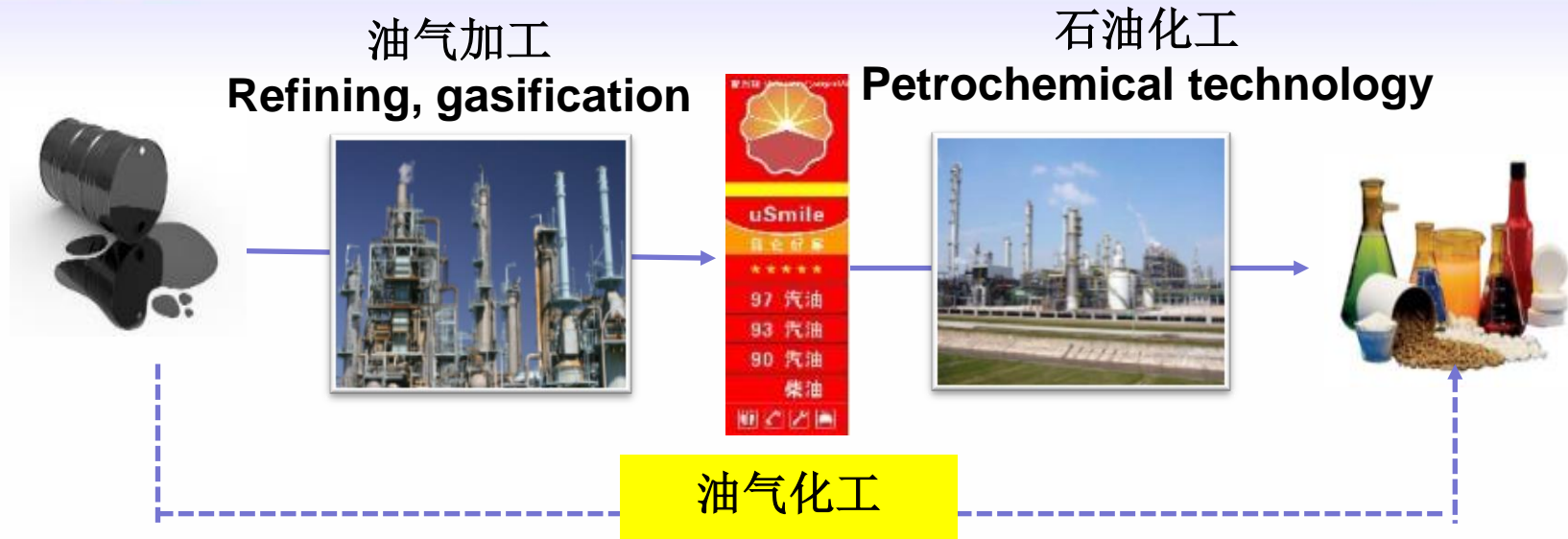
专业基础课程
专业及特色课程

实践教学课程
工程能力扩展





专业特色 Specialty



- 油气加工、石油化工与油气化工
- 构建完整的油气化工上下游一体的课程体系
- 符合行业发展规律（炼化一体化）和地方经济发展要求（四川省优势产业）

Education system: From refining, gasification to downstream chemical engineering and technology

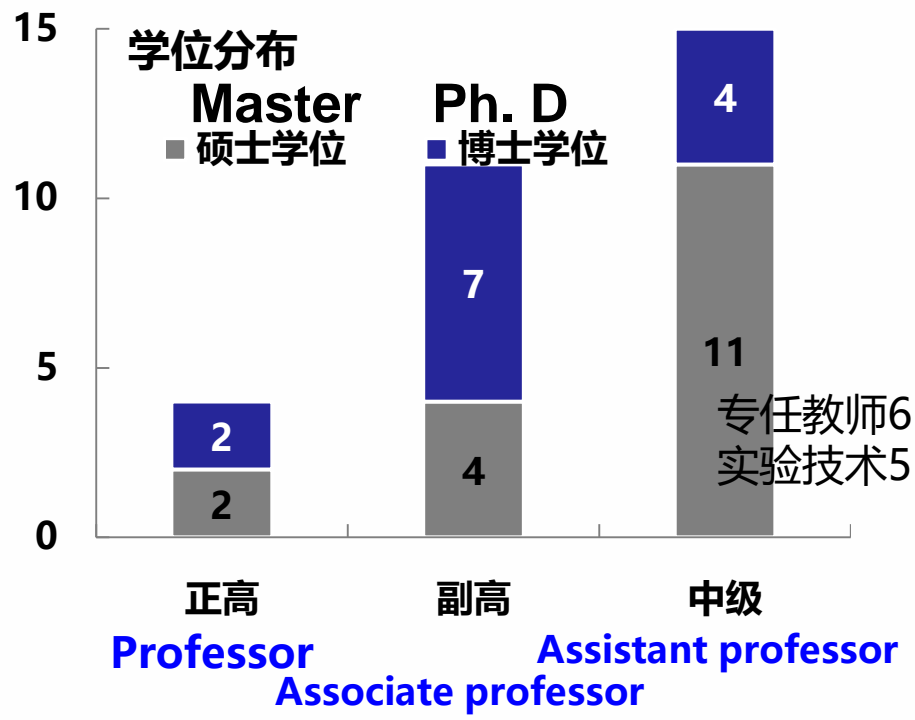
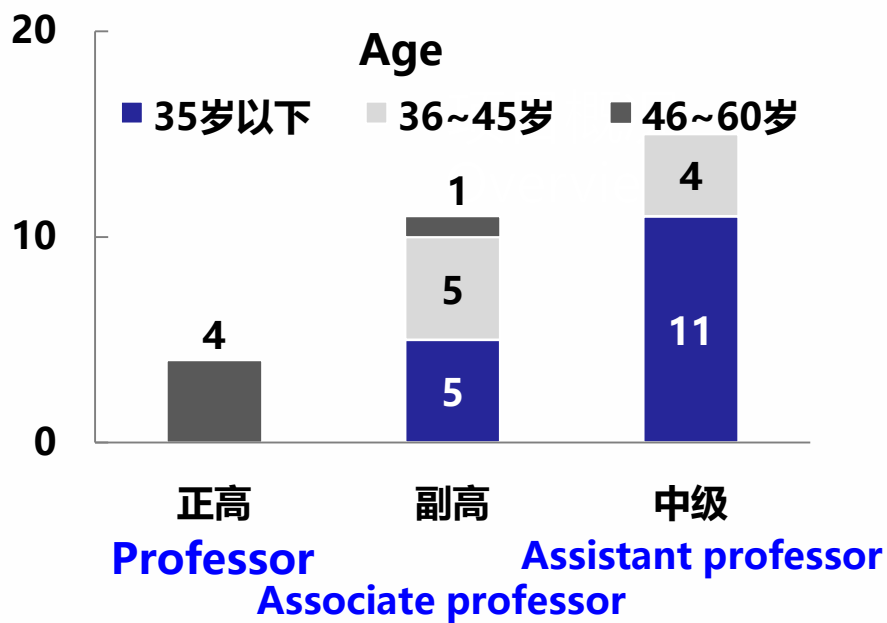
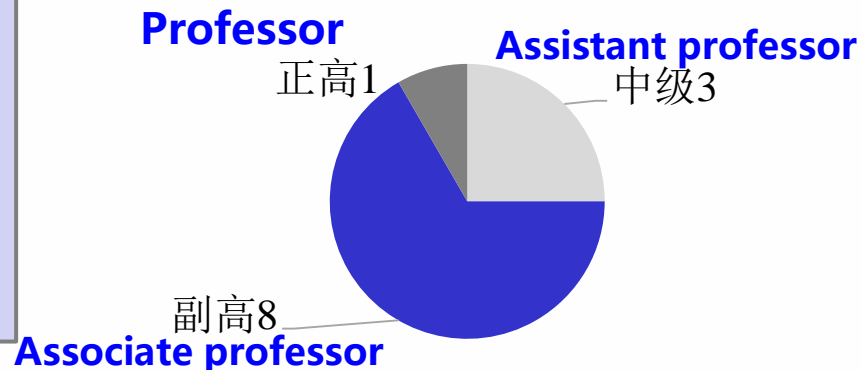
Match the needs of industry and local society and economy



师资队伍

- ◆ 全职教师 Faculties: 30
 - Professor 4
 - Associate professor 11
 - Assistant professor 15
- ◆ 兼职教师 Part-time faculties: 11

有海外经历人数
Overseas experience: 8





师资队伍建设-人才引进示例

姓名	BS	Mater	Ph.D	Post-doc.
 张辉	石油化工/抚顺石油学院	化学工艺/西南石油学院	化学工艺/四川大学	
 葛性波	化学工程与工艺/ 中国矿业大学	物理化学/山东大学		Tohoku university
 唐鋆磊	材料科学与工程/ 北京化工大学	材料科学与工程/北京化工大学		INSA-Lyon
 牟川淋	过程装备与控制工程 /四川大学	化工过程机械/四川大学		
 孙晋	化学工程与工艺 /辽宁石油化工大学	化学工程/中国石油大学(北京)		
 王宏	化学工程与工艺 /四川大学	化学工程/天津大学	化学工程/新加坡南洋理工大学	NANYANG Technological University, Singapore



Publication





支持条件 Campus



完善的育人环境



丰富的素质拓展平台



Culture

Fuel our nation



三老四严
铁人精神

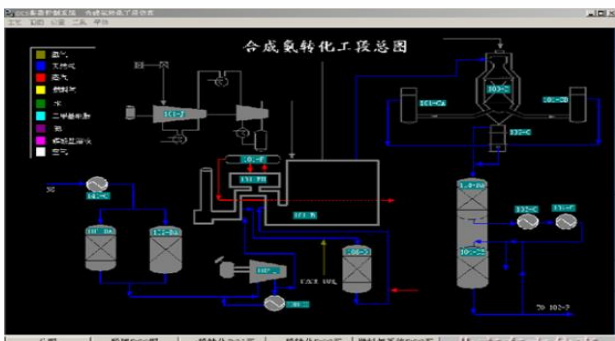
厚重的大学精神



Practice training bases



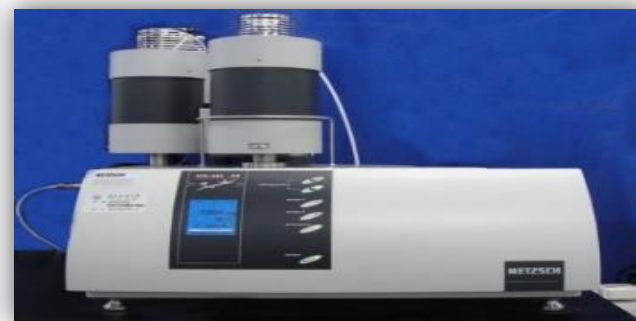
Southwest Petroleum University
西南石油大学



规范的实践教学基地



Experiment training



规范的实验教学条件



Teaching Management



完整的教学管理



学生成长 / Extracurricular Activities

Science and arts festivals

Academic lecture and competition

两大节会
春季学期青年
文化艺术节
秋季学期科
技文化节



三大板块
魅力专业
挑战讲坛
学科文化



四类活动
学科竞赛
学术讲座
社团活动
竞技展示



五大品牌
化工设计竞赛
化学邀请赛
化工星播客
化学嘉年华
七彩耀化工

Culture construction



七彩耀化工



化学嘉年华



科技文化节



化学邀请赛



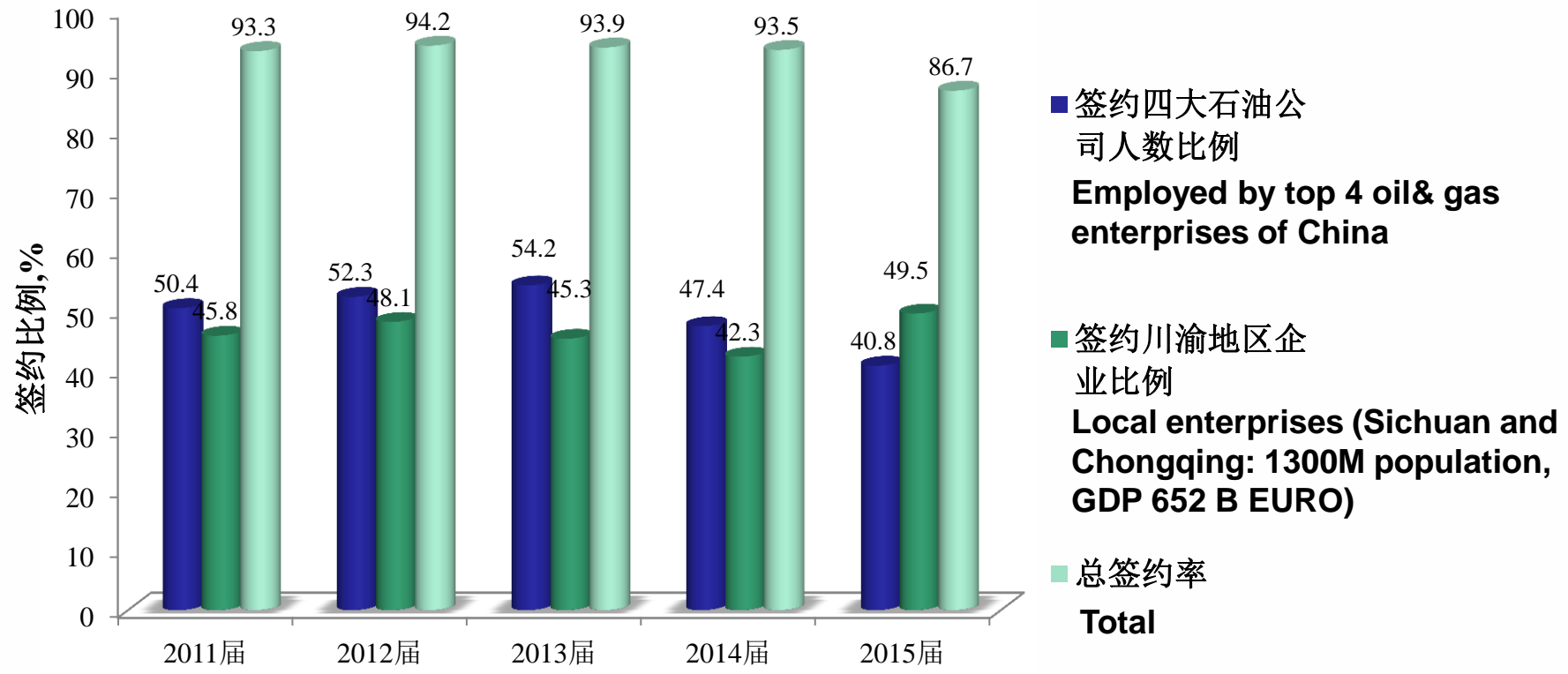
心理辅导



专业社会实践



培养目标达成

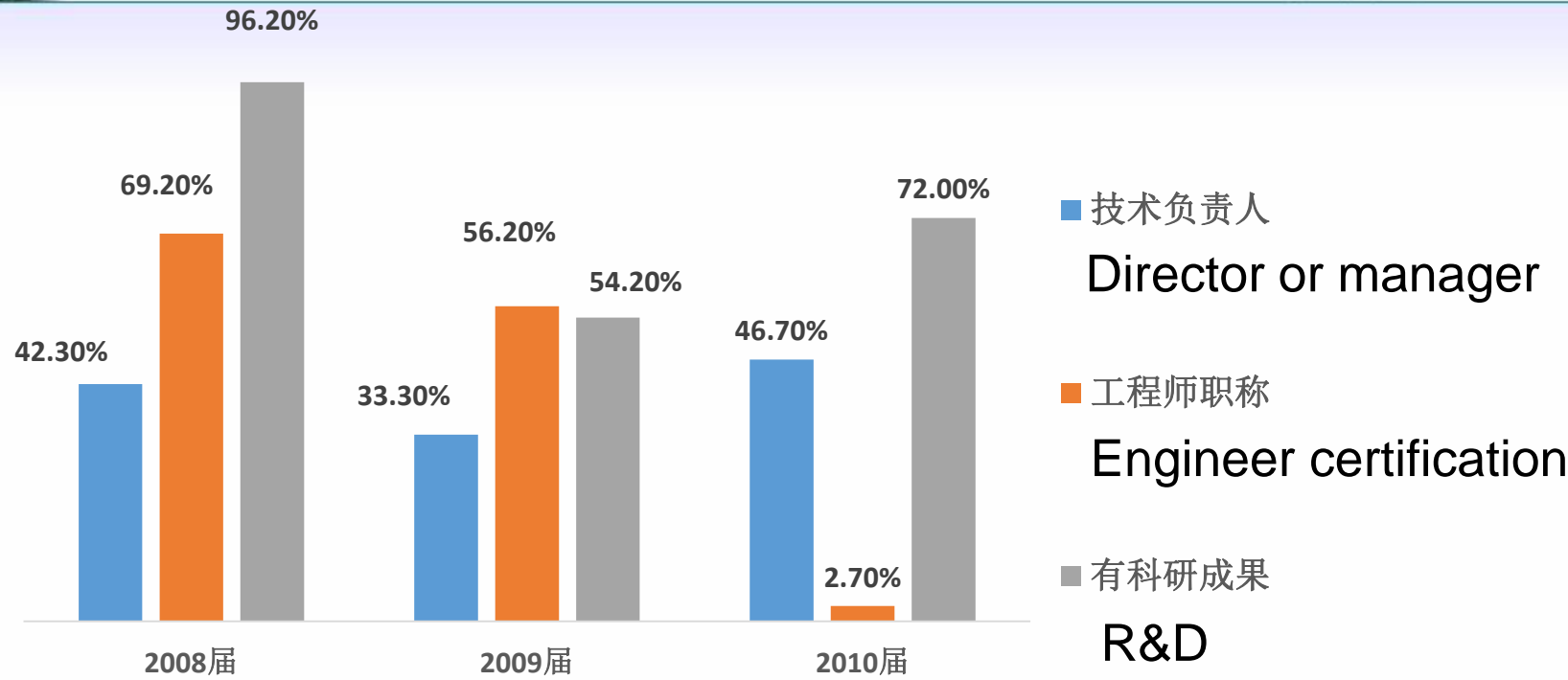


近5届毕业生就业去向人数比例

Employment (2011-2015)



The professional development of graduates (2008 – 2010)



➤ 近3届毕业生65%以上从事油气化工行业的工程技术工作

65% graduates work in petrochemical industry: Engineering and technology related

➤ 毕业生通过学校学习的专业知识和接受的实践训练，熟练掌握了化工过程基本原理、油气化工工艺和设备、常用化工专业工具以及实践技能，初步掌握科研基本方法

Graduates have handled widely knowledge of CECT, are able to use them in application and do entry-level R&D

➤ 毕业生在工作5年左右，能够承担生产过程的操作、优化和改造以及新工艺和产品的开发、设计和研制，大部分成为技术骨干

After graduation 5 years, most graduates can be the chief of technical team

工程教育认证 National certification of engineering education: respect to international standard



Southwest Petroleum University
西南石油大学



基于华盛顿条约 – 国际认可的工程教育标准