



IBM University Relations

# What's New in Service Science, Management and Engineering

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Bill Hefley, Carnegie Mellon  
INTACT DECK

7-Oct-08

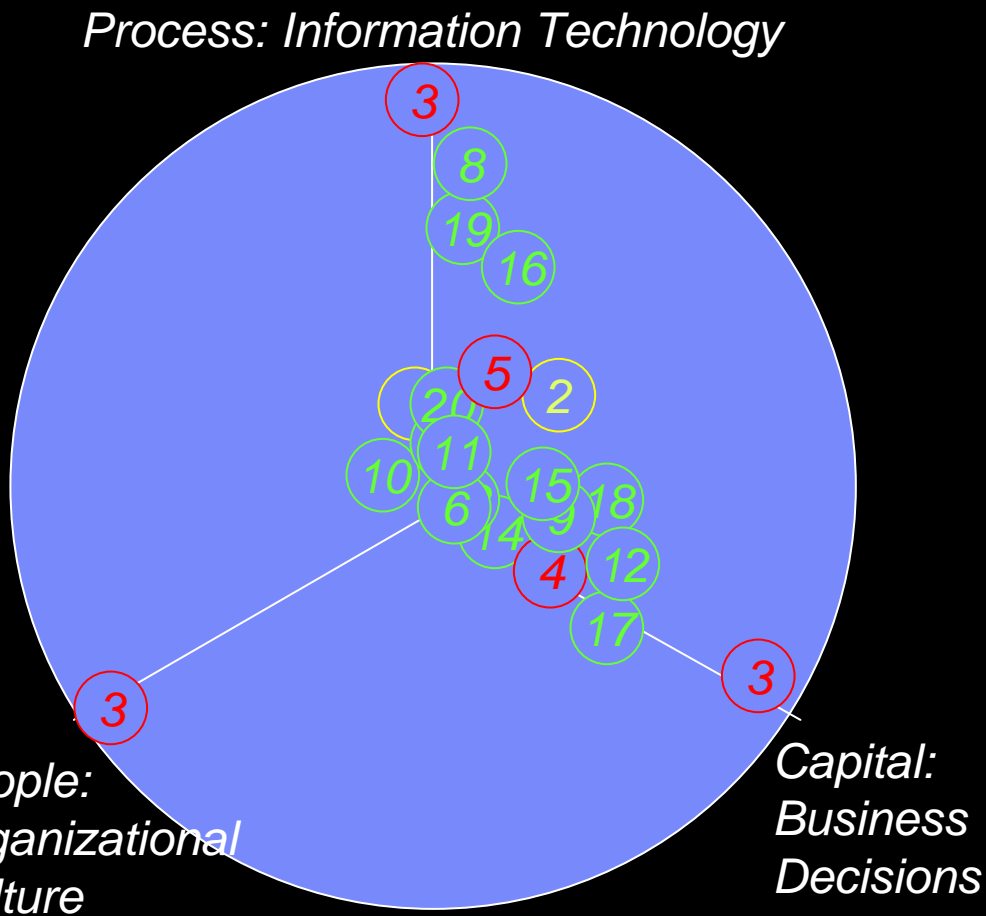
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Carnegie Mellon

# Academic response

- **New curricula & programs being developed**
  - Variations in coverage of people, process and technology
  - Service dimension underlies content
- **New programs sample**
  - Undergraduate degree
    - Michigan Tech U; Singapore Management U
  - Graduate concentrations
    - Karlstads U, North Carolina State U
  - Graduate degrees
    - Carnegie Mellon, Helsinki Polytech, Peking U, Portland State U, Rochester IT, RMIT, Scuola Sant'Anna, Steven Inst, U del Salvador, U Bridgeport, U Buffalo, U Exeter, U Manchester, U Trento, U Pavia

Service Science programs are developing. The center balances three key factors: business value, IT process, organizational culture

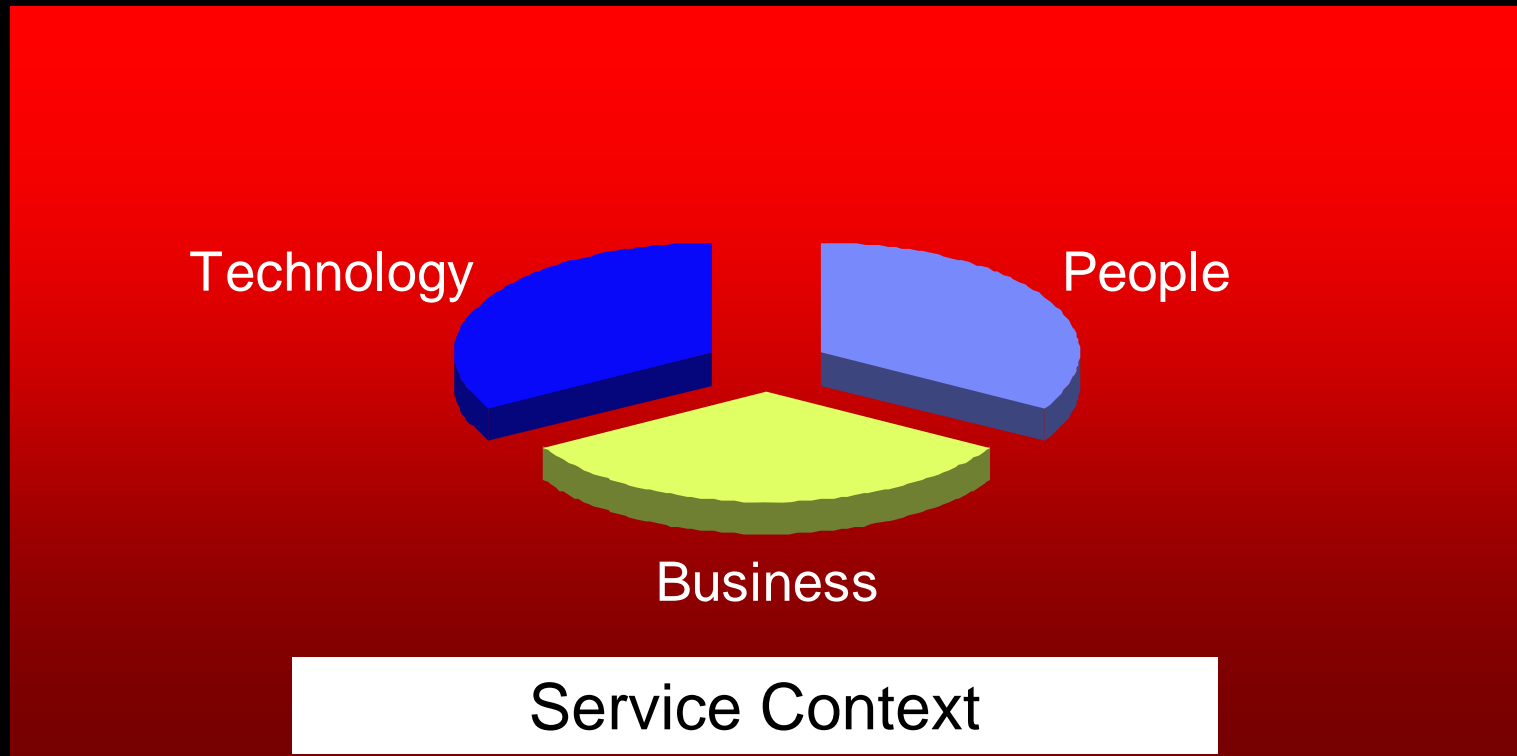
<b>Undergraduate</b>
1. Mich Tech
2. Singapore Mgmt
<b>Graduate concentration</b>
3. Karlstads U
4. NCSU MBA
5. NCSU MSCN



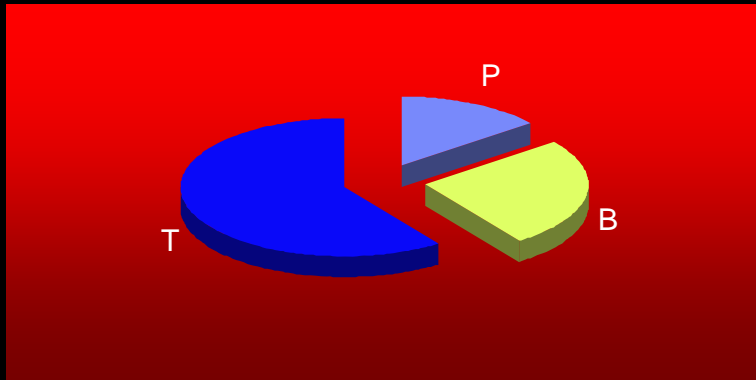
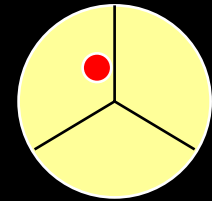
<b>Graduate</b>
6. Carnegie Mellon
7. Helsinki Polytec
8. Peking U
9. Portland State
10. Rochester Inst T
11. RMIT
12. Scuola santAnna
13. Stevens
14. U del Salvador
15. U Bridgeport
16. U Buffalo
17. U Exeter
18. U Manchester
19. U Trento
20. U Pavia

# The Sweet spot

- Approaches balance of People, Business and Technology
- With necessary emphasis on the service context



# Michigan Tech, Service Systems Engineering



Human Influence in Service Systems

Operation of Service Systems

Managing Risk

Accounting, finance

Math & statistics

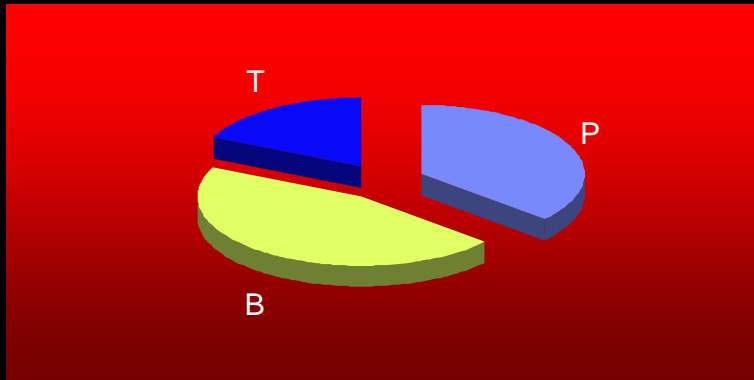
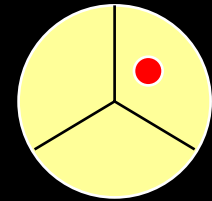
Engineering



Undergrad

[www.sse.mtu.edu/](http://www.sse.mtu.edu/)

# Singapore Management University School of Information Systems, BS, ISM Service Science & Systems concentration



Business Service science, management science

Anthropology of Services

IT Project management, IT Outsourcing, SOS

Buyer Behavior, Social Networking Analysis

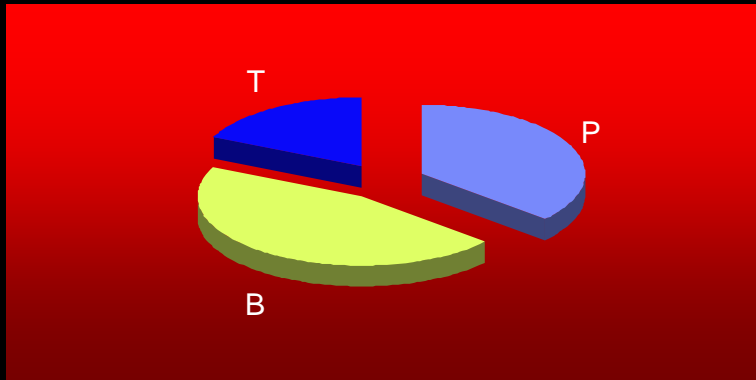
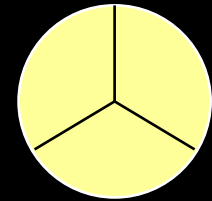
Service management

Projects



Undergrad concentration [www.sis.smu.edu.sg/programme/SSME/index.asp](http://www.sis.smu.edu.sg/programme/SSME/index.asp)

# Karlstads Universitet Master Program with a Profile in Service Science



A Masters degree one of these fields

- Working Life Science
- Computer Science
- Business Administration
- Information Systems

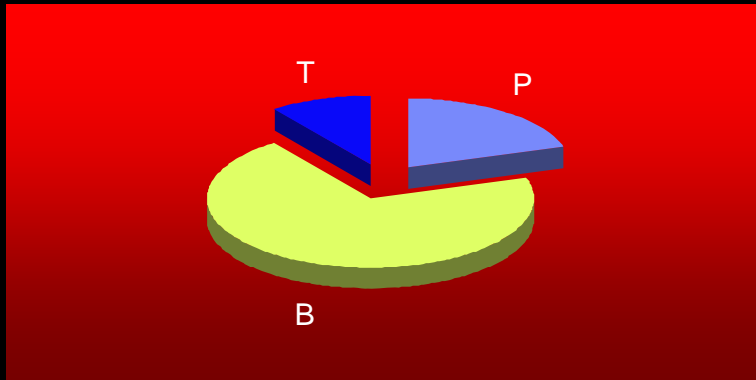
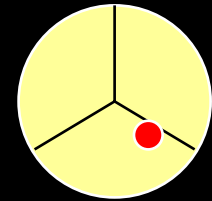
PLUS a profile or concentration in service science.



Graduate

[http://www.kau.se/education/program\\_detail.lasso?ID=PR1133](http://www.kau.se/education/program_detail.lasso?ID=PR1133)

# North Carolina State University MBA Services Management and Consulting Concentration



- Concentration among:
- S
  - Service Management
  - e
  - Process Analysis & Design
  - r
  - Organizational Culture
  - Design of IT Service Systems
  - Network Services and Systems
  - Relationship Management
  - Innovation Management

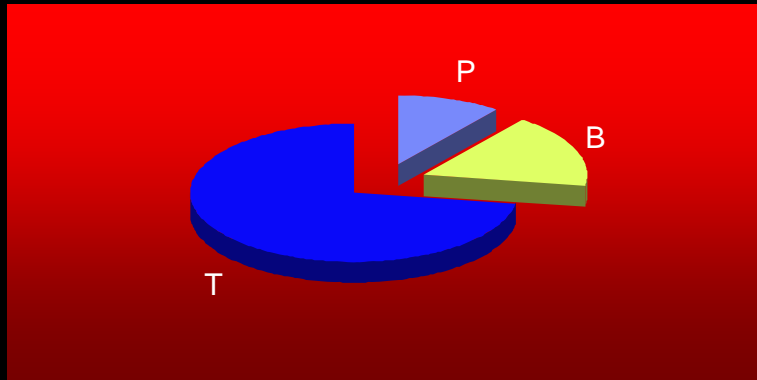
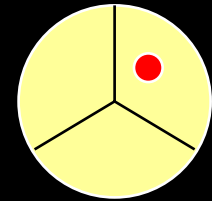


## Graduate concentration

[http://mgt.ncsu.edu/mba/future\\_students/full-time\\_mba/concentrations/services\\_about.php](http://mgt.ncsu.edu/mba/future_students/full-time_mba/concentrations/services_about.php)



# NCSU Masters in Computer Networking



Concentration among:

- Service Management
- Process Analysis & Design
- Organizational Culture
- Design of IT Service Systems
- Network Services and Systems
- Management of Technology
- Management of People in High-Tech Organizations

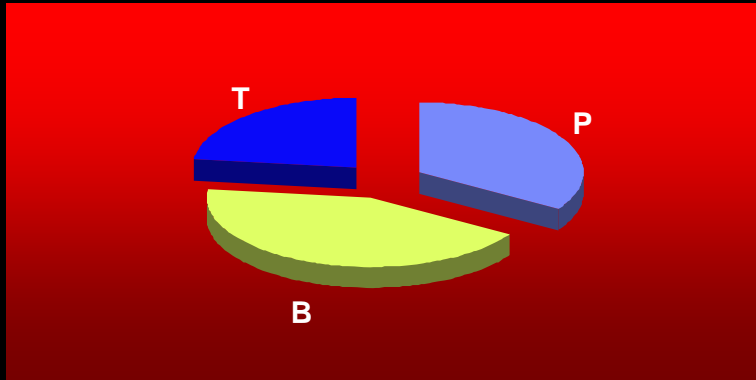
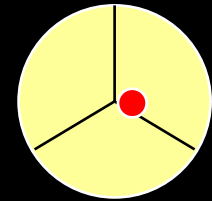


**Masters in  
Computer Networking**

Graduate concentration

<http://networking.ncsu.edu/service.php>

# Carnegie Mellon, School of Computer Science, MSIT-ITSM, Master Of Science in Information Technology in IT Service Management



IT Service Management core

Intro to service science

Service strategies

Organizational behavior

Financial management

Quantitative methods

Managing service organizations

Process & capability models

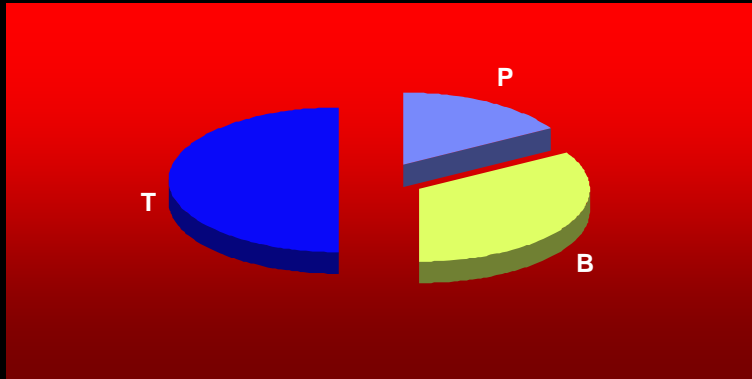
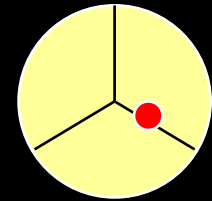
Practicum

**Carnegie Mellon**

**Graduate**

<http://www.servicemanagement.cs.cmu.edu>

# Helsinki Polytechnic Stadia Master in Service Management



Principles of Business in services Economy  
and Business Research Methods

Customers, Business models and  
Innovations

Services in International Context

Service Leadership, Organizational  
Development and Teamwork

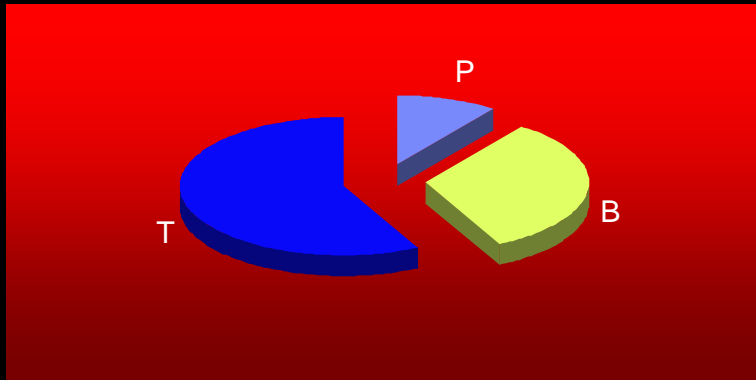
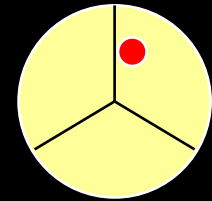
Service Delivery and Technology  
Architectures

Strategic Management,  
Intra/Interpreuership, Alliance and Venturing



Graduate [http://www.hse.fi/EN/education/programs/p\\_21/ismi/](http://www.hse.fi/EN/education/programs/p_21/ismi/)

# Peking University, School of Software and Microelectronics Master of Software Engineering



Intro to Service Science and Engineering  
Seminar on Service Science and Engineering  
Internship and thesis  
Integrated lab  
Enterprise operations, ERP, workflow

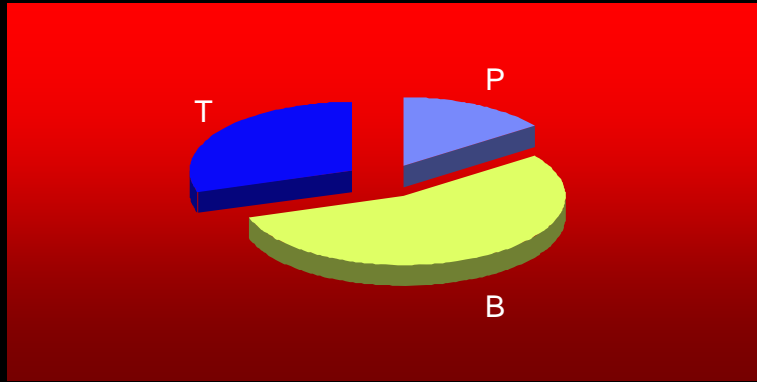
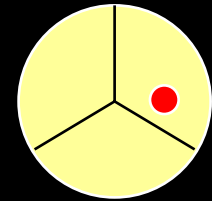


北京大学 软件与微电子学院  
School of Software and Microelectronics, Peking University

## Graduate

[www.ss.pku.edu.cn/index.php?option=com\\_content&task=category&sectionid=22&id=233&Itemid=457](http://www.ss.pku.edu.cn/index.php?option=com_content&task=category&sectionid=22&id=233&Itemid=457)

# Portland State University, College of Engineering and Computer Science MS Management of Engineering & Technology



Management of Engineering and Technology

Decision making in Engineering and Technology Management

Operations Research in Engineering and Technology Management

Project Management in Engineering and Technology

Technology Marketing

Communication and Team Building or Organizational Management

Engineering Economic Analysis or Financial Accounting

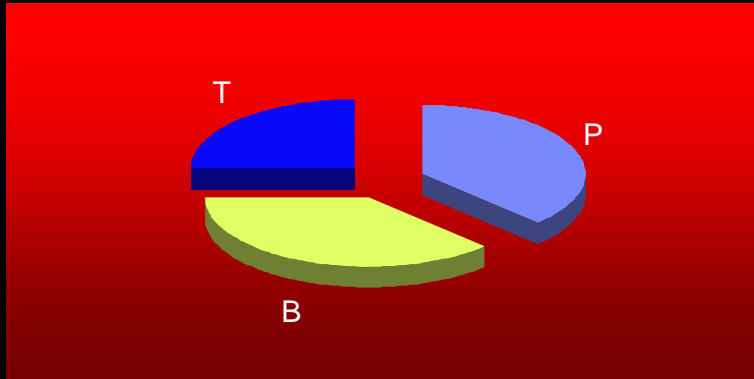
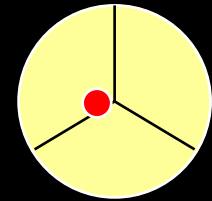
Capstone Requirement



**Graduate**

<http://www.etm.pdx.edu/New/courseschedule.aspx>

# Rochester Institute of Technology MS Service Management



Critical service system thinking & service system development

Service discovery, innovation and creativity

Service performance metrics

Learning to learn, changing our business paradigms

Scenarios, strategic process and decision making in service environment

Engineering service environments

Human capital development

Building customer experience and relationship development to obtain and retain customers.

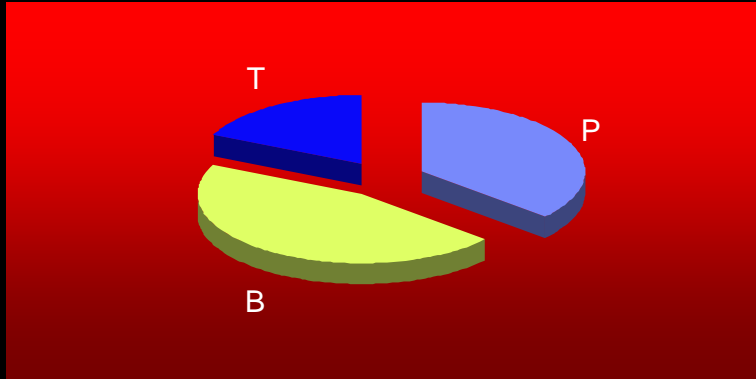
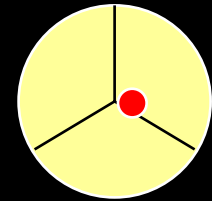
Service leadership



Graduate

[http://www.rit.edu/programs/grad/colleges/cast/serv\\_mgmt.html](http://www.rit.edu/programs/grad/colleges/cast/serv_mgmt.html)

# Royal Melbourne Institute of Technology, Master of Business Services Science



Business Service science, management science

Anthropology of Services

IT Project management, IT Outsourcing, SOS

Buyer Behavior, Social Networking Analysis

Service management

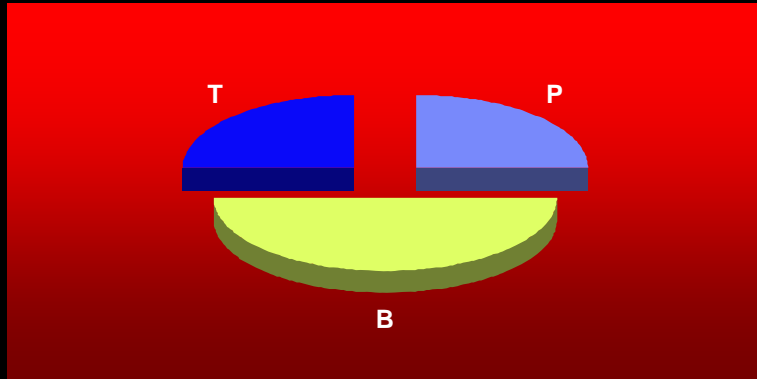
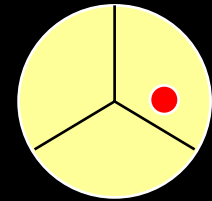
Projects



Graduate

[www.rmit.edu.au/programs/mc166](http://www.rmit.edu.au/programs/mc166)

# Scoula Superiore santAnna MAINS



Management, strategy, accounting, finance, marketing

Organization, team management, knowledge management

Business intelligence, data base, data warehouse, OLAP, data mining, networking services

Innovation management, business model innovation, change management, R&D

Service Engineering, CRM, demand planning, supply chain, logistics, risk management, financial services, laws



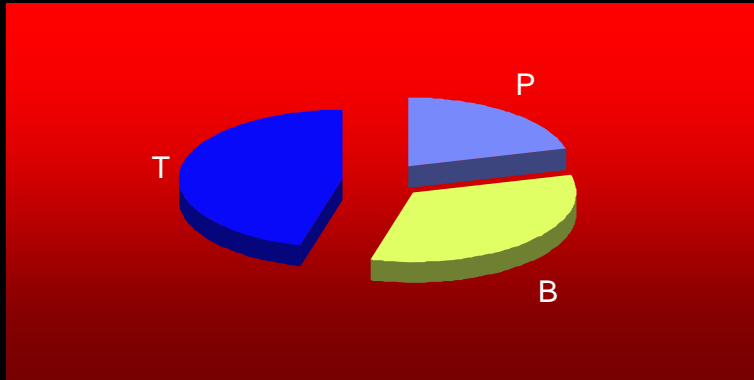
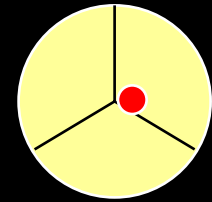
**santAnna**  
school of advanced studies

Graduate

[www.sssup.it/context.jsp?ID\\_LINK=464&area=46](http://www.sssup.it/context.jsp?ID_LINK=464&area=46)



# Stevens, Howe School of Technology Management, Service Management



Service segments

Consulting

Complex systems

Outsourcing

Business Process Management

Service specializations

Supply chain

Service development

SOA

Managing IT

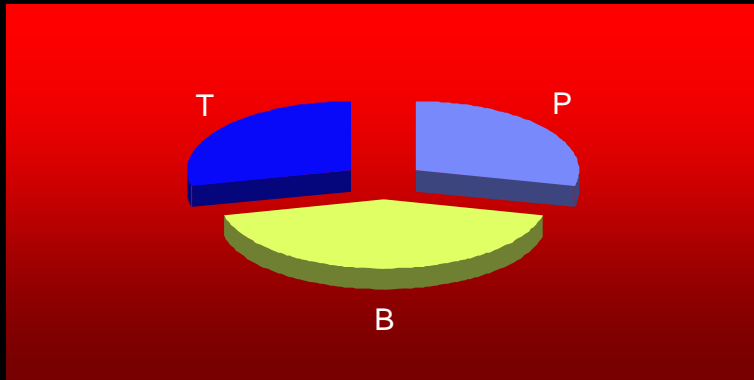
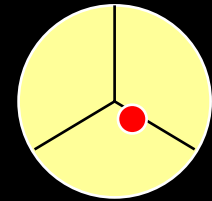
Knowledge Management & data mining



Graduate

<http://howe.stevens.edu/index.php?id=1420>

# Universidad del Salvador Master in Global Services



1st year, same as MBA

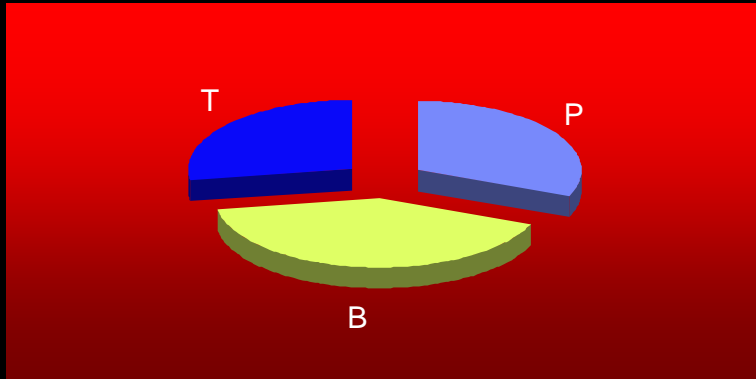
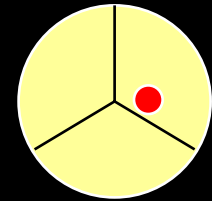
2nd year

- Services Design and Development
- Services Industries
- Globalization and Virtual Teams
- SSME and SOA
- eSCM-SP
- Knowledge Management
- Innovation and Creativity
- Leadership & Emotional Intelligence



Graduate <http://www.salvador.edu.ar/home/index.html>

# University of Bridgeport, M.S. in Technology Management / MBA Dual Degree Program



Technology management core

MBA core

Electives

Capstone

International issues

Strategy

Business & Society

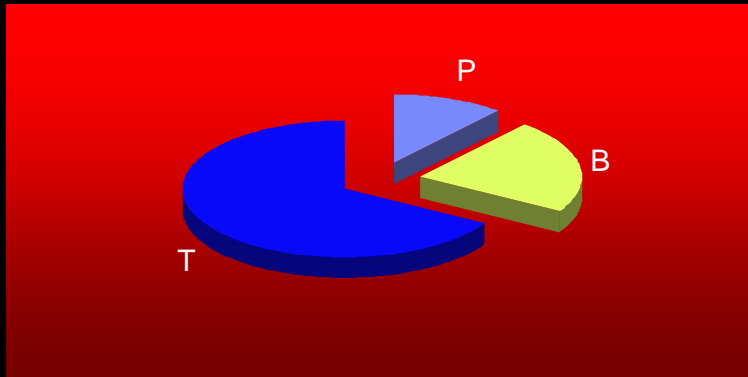
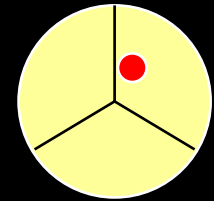
Leadership, teams, managing change



Graduate

[http://www.bridgeport.edu/sed/departments/tech\\_management](http://www.bridgeport.edu/sed/departments/tech_management)

# University of Buffalo, MS Service Systems Engineering



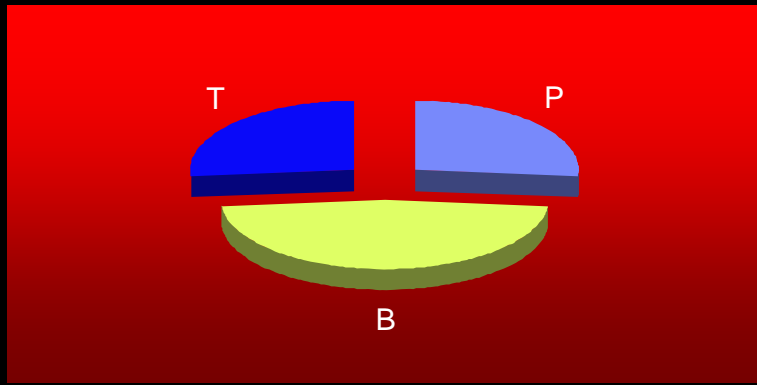
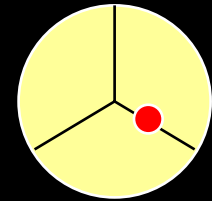
- Engineering management
- Technology courses
- Communications for engineers
- Capstone



Graduate

<http://www.eng.buffalo.edu/sse/sse.php>

# University of Exeter, MSc Service Science and Management



Marketing, operations management  
and the management of services

Advanced knowledge of the  
services sector, such as creating  
value, customer relationship  
management technology

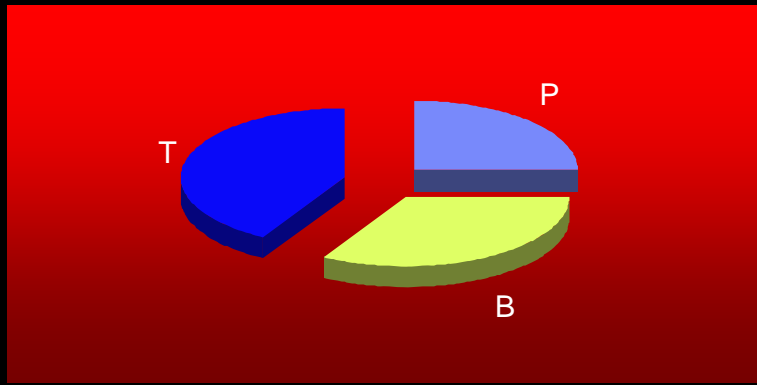
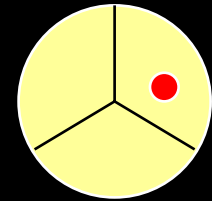
Management of demand, capacity  
and yield.



## Graduate

<http://www.exeter.ac.uk/postgraduate/degrees/business/servicemsc.shtml>

# University of Manchester Specialist Masters, MSc Management of Science, Technology and Innovation



Science, Technology and  
Governance

Innovation and Technology  
Management

Foresight and Futures

Sustainability

Science, Technology and the  
Information Society

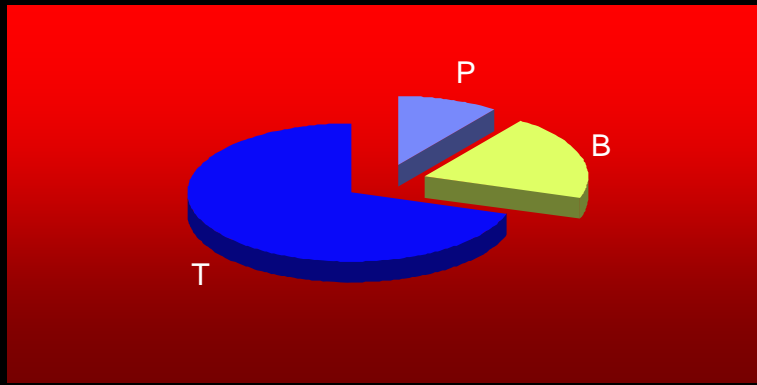
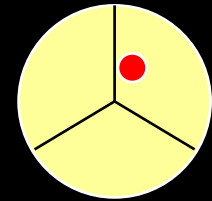
The University of Manchester  
Manchester  
Business School

MANCHESTER  
1824

## Graduate

<http://www.mbs.ac.uk/specialist/course/index.asp?code=05849&pg=2>

# University of Trento



Organizational Information Systems

Distributed systems and service interoperability

Information Privacy and Security

E-Government Concepts

Data Management for e-Government

Process Management for e-Government

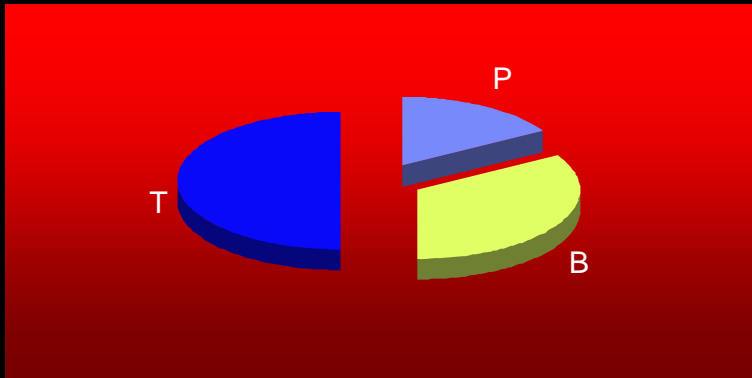
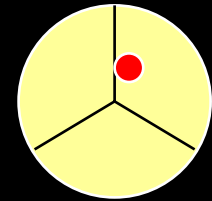
Lifecycle management of e-Government applications



## Graduate

<http://latemar.science.unitn.it/segue/index.php?site=MasterEgov&section=53&page=211&action=site>

# University Pavia Master in Digital Services Engineering



- Numerical Methods
- Multimedia Technologies and Systems
- Enterprise Organization
- Data Base (advanced)
- Sw Engineering (advanced)
- Data collection and analysis techniques
- Business Analysis
- Enterprise Systems
- Project work
- Hardware architecture LS
- Innovation Economics
- Computer Networks

Graduate

[www.unipv.it/ingegneria](http://www.unipv.it/ingegneria)



# Sample list of schools offering courses, programs, or other

# Developing or offering courses or programs (EMEA)

## Belgium

Katholieke University Leuven

University of Brussels

## Czech Republic

Masaryk University

Technical University of Brno

## Finland

Helsinki Polytechnic Institute

Helsinki University of Technology

Tampere University of Technology

## Germany

Karlsruhe Institute of Technology

## Ireland

University College, Dublin

University of Dublin (Trinity College)

## Israel

Business schools of IDC

## Italy

LIUC Castellanza

Scuola Sant'Anna

Stadia

University of Pavia

## Netherlands

Delft University of Technology

## Portugal

University of Porto

## Russia

Russia Higher School of Economics

State University of Management, Moscow

## Sweden

Karlstad University

## Switzerland

EPFL Federal Institute of Technology

UK (next page)

...and more

# Developing or offering courses or programs (UK, Americas)

## UK

Cambridge

Exeter

Oxford

University of Glasgow

University of Manchester

Warwick University

## Canada

University of Alberta

University of Ontario

University of Victoria

York University

## Argentina

Universidad Catolica

Universidad Torcuato Di Tella

## Brazil

Universidad Federal de Rio de Janeiro

## Mexico

ITESM

Tecnologico de Monterrey

Universidad de Guadalajara ...and more

# Developing or offering courses or programs (US)

Arizona State University

Brigham Young University

Carnegie Mellon University

Cornell University

Georgetown University

Georgia Tech Tennenbaum Institute

Long Island University

Massachusetts Institute of Technology

Michigan Technological University

Missouri State

North Carolina State University

(Northern Illinois University

Ohio State, Fisher College of Business

Pace University

Pima Community College

Portland State University

Rensselaer Polytechnic

Rochester Institute of Technology

Texas A & M University

University of North Carolina Keenan Flagler  
School of Business

University of Bridgeport

University of California, Berkeley

University of California Merced

University of California, Santa Cruz

University of Maryland Baltimore County

University of Maryland RH Smith School of  
Business

University of Pennsylvania, Wharton School of  
Business

University of Virginia

University of Washington

University Texas, Austin

Western Michigan University

Virginia Tech

...and others

# Developing or offering courses or programs (Asia / Pacific)

## Australia / New Zealand

BOND University

Deakin University

Royal Melbourne Institute of Technology

University of Sydney

University of Auckland

## China

Bei Jing University

Fu Dan

Harbin Institute of Technology

Peking University

Tsinghua University

Zhong Shan University

...and more

## India

S P Jain Institute of Management & Research

## Japan

Advanced Institute of Science & Technology

Tokyo Institute of Technology

University of Tsukuba

## Korea

Advanced Institute of Science & Technology

Chonnum University

Dankook University

Korea University

Sogang University

## Singapore

Singapore Management University

## Thailand

Thammast University

...and others

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Tel: +1-877-572-9238

**Thank You!**