



Иновации

## *Иновации в образовании. Навыки 21 века*

Сергей Белов

Координатор университетских программ  
IBM Центральная и Восточная Европа, Ближний  
Восток, Африка ([Sergey\\_Belov@ru.ibm.com](mailto:Sergey_Belov@ru.ibm.com))

Society

Business

Technology

# Наиболее востребованные навыки и знания быстро меняются

## ИТ направления –лидеры

аутсорсинга

- Application Development
- Application Maintenance
- Packaged Application Tools
- Transcription Services
- Contract and Call-Center Staff
- Specialized Business Process Outsourcing Services

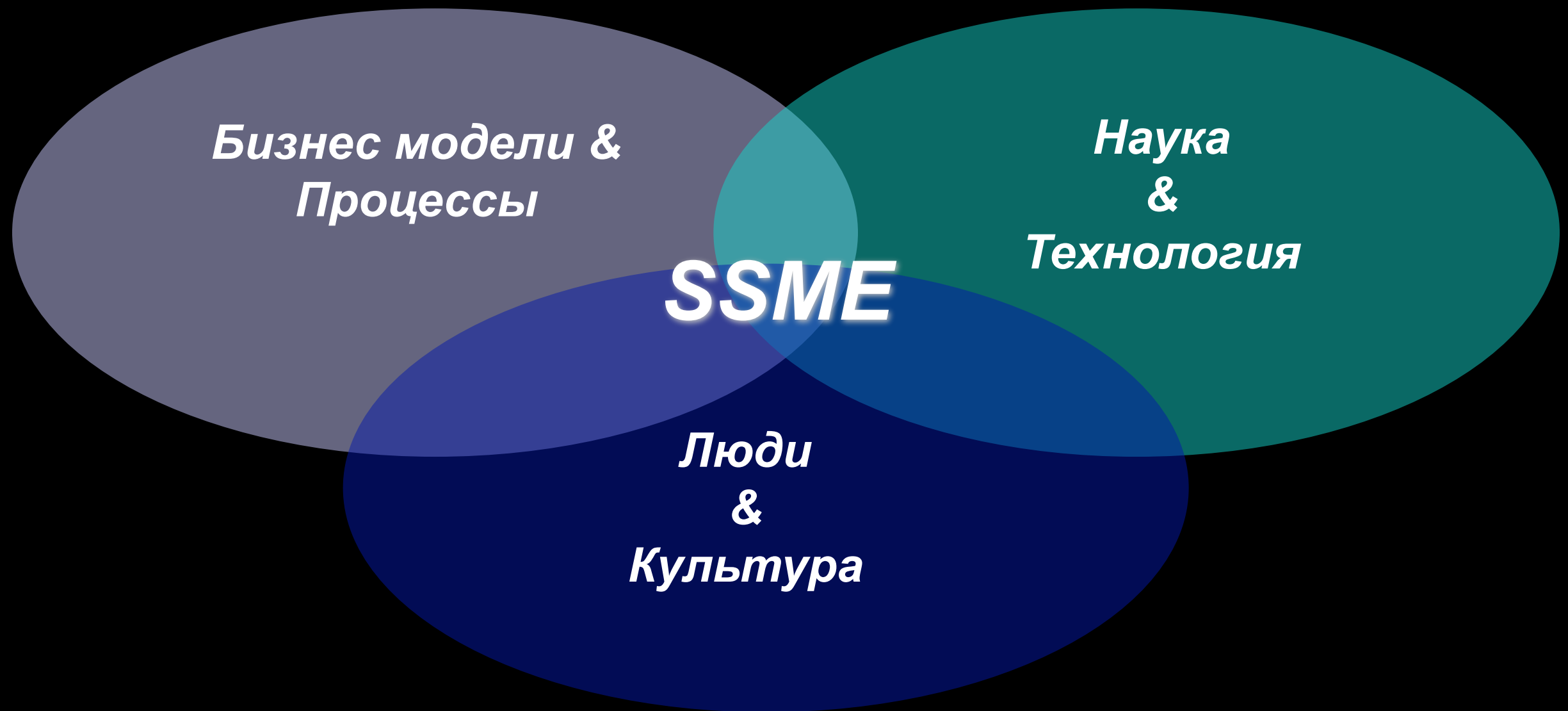
## ИТ направления, востребованные в

развитых странах

- Business Analysis
- Security Analysis
- Vendor Management
- Service Management
- System Integration
- Data Mining
- Business Intelligence
- Database Administration
- Network Engineering

- **Увеличивается значение образования**
- **Вызовы лежат на пересечении бизнеса и технологий**
- **Учебные планы должны отражать сегодняшние и завтрашние потребности**

# Один из возможных ответов: Service Science, Management & Engineering (SSME)



# Что такое SSME

- Приложения науки и технологии к задачам, которая одна организация выполняет для другой (сервисам)
  - Сервисы это что-то, что нельзя уронить на ногу, но тем не менее имеющее экономическую ценность.
  - Ключ к ценности того или иного сервиса находится в области действия, осуществляемого в настоящее время или предполагаемого в будущем. Сервисы присуще внутренние связи и зависимости.
  - Исключительно сложная организация.



# Обучение SSME - междисциплинарное

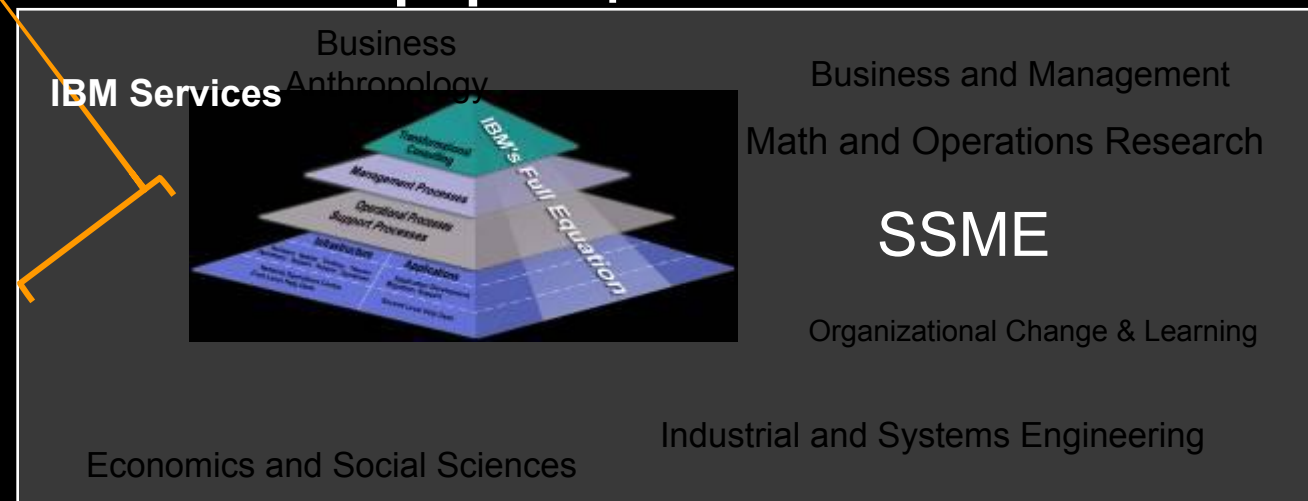


Это T-shaped образование – одновременно глубокое и широкое

# Сервисы в области информационных технологий (IT Services)

## ITSC (Учебный план в области ИТ Сервисов)

ITSC – раздел науки об сервисах (SSME), в котором рассматриваются сервисы в области информационных технологий



### Цел

Разработать учебный план, учебные программы для бакалавров и магистров, которые позволяют студентам приобретать необходимые знания в области ИТ сервисов.

# ITSC Program Overview

## Bachelor Degrees

IT Service Management      or      IT Infrastructure Management

## Master and Doctoral Degrees

- Information Technology Services Integration
- Business Process Management
- Policy Based Autonomic Infrastructures (On Demand infrastructures)

# ITSC Program Overview – IT Services Topics

- IT Management System Architecture, Design, Development, and Implementation
- IT Management System Framework
- IT Management System Operation
- IT Management System Evaluation
- IT Customer Relationships
- Stakeholder Requirements Management
- Service Marketing and Sales
- Service Level Management
- Customer Satisfaction Management
- IT Direction
- IT Strategy
- Architecture Management
- Risk Management
- IT Portfolio Management
- IT Service Requirements
- IT Service Analysis and Design
- IT Service Solution Build & Test
- IT Service Acceptance
- Configuration Management
- Security Management
- Availability Management
- Capacity Management
- Facility Management
- IT Service Continuity
- IT Availability Management
- IT Operations
- Service Execution
- Service Attainment
- Data Management
- Storage Management
- Event Management
- User Contact Management
- Incident Management
- Problem Management
- Solution Deployment
- Change Management
- Release Management
- IT Process Management
- IT Service Creation
- Software Distribution
- IT Administration
- IT Workforce Management
- Knowledge Management
- IT Asset Management
- Service Pricing and Contract Administration
- IT Resilience
- IT Service Reporting
- Service Oriented Architecture
- IT Infrastructure Consolidation
- IT Infrastructure Virtualization
- Software License Management
- IT Research and Innovation
- IT Capacity Management
- IT Recovery Management
- IT Incident Management
- IT Infrastructure Provisioning
- IT Usage Metering and Billing
- Infrastructure Performance Management
- Business Process Management



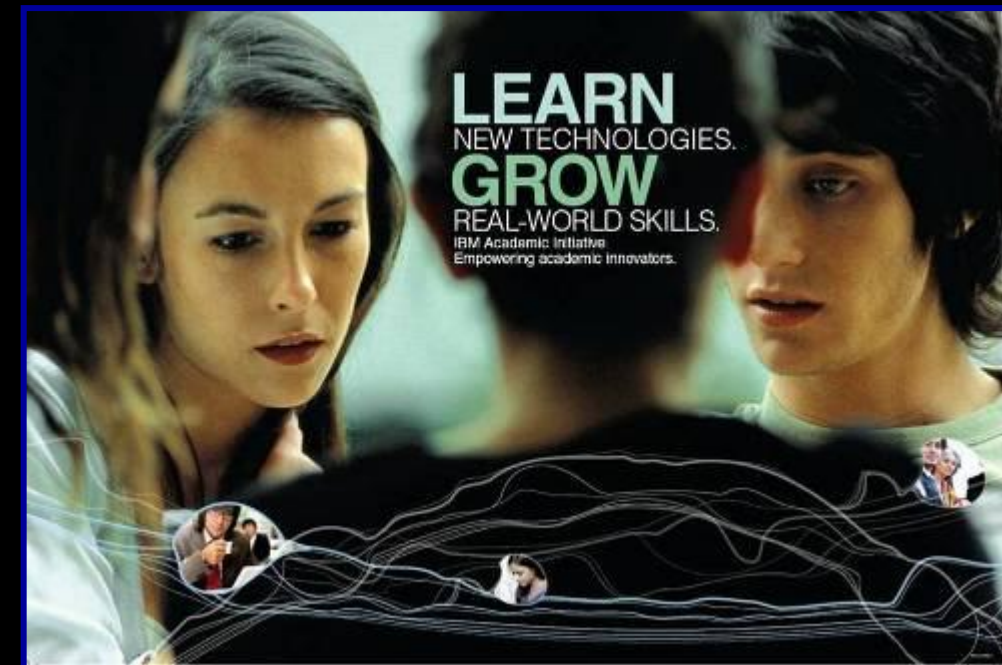
# Syllabus

## Introduction to Enterprise Systems Management

- Session 1 - Course Logistics - Course Overview - Questionnaire
- Session 2 - Computing Infrastructure Overview Computing Platforms and OS
- Session 3 - Computing Infrastructure Overview - Networks
- Session 4 - Computing Infrastructure Overview - Storage
- Session 5 - Computing Infrastructure Overview - Applications (DB, Middleware, CRM, IT Management, etc)
- Session 6 - Introduction to IT Services - ESM Introduction (IT Service Management)
- Session 7 - ESM Introduction (IT Infrastructure Management)
- Session 8 - Exam
- Session 9 - Event & Fault Management (Introduction of terms and concepts)
- Session 10 - Event Management Cont. (Implementation and Configuration of Event Mgmt Service)
- Session 11 - Event Management Cont. (Event Processing - Operations Management (Notification, Escalation, etc))
- Session 12 - Event Management Cont. (Service Interconnections and Tools Sampling)
- Session 13 - Problem Management
- Session 14 - Change Management
- Session 15 - Exam
- Session 16 - Configuration Management
- Session 17 - Asset Management (Inventory)
- Session 18 - Asset Management (Software Distribution)
- Session 19 - Performance and Capacity Management
- Session 20 - Midterm Exam
- Session 21 - Case Study Overview and Assignments
- Session 22 - Security Management
- Session 23 - Network Management
- Session 24 - Case Study Workshop (Tools Survey/Research)
- Session 25 - Storage Management
- Session 26 - Workload Management
- Session 27 - Backup and Recovery Management
- Session 28 - Exam
- Session 29 - Case Study Workshop (Customer Feedback)
- Session 30 - End User Services (Remote Control, Help Desk, Deskside Support)
- Session 31 - Reporting Management
- Session 32 - Business Process Management Fundamentals - Overview
- Session 33 - Business Process Management Supporting Infrastructure
- Session 34 - Case Study Presentations
- Session 35 - Case Study Presentations
- Session 36 - Case Study Presentations if needed (request management if theres time)
- Sessions 37-39 - Final Exam

# Академические инициативы IBM

- Бесплатный доступ к программному обеспечению и учебно-методическим материалам IBM для преподавателей ВУЗов
  - IBM DB2 Information Management
  - IBM Rational
  - IBM Lotus
  - IBM WebSphere
  - IBM Tivoli
  - Программное обеспечение кластеров
  - Операционная система AIX
- Тренинги, технические семинары, конкурсы и деловые игры для студентов и преподавателей.
- Льготная сертификация студентов и преподавателей.
- База данных резюме студентов, изучающих программные продукты IBM.
  - [Открыть базу данных резюме студентов](#)



[ibm.com/ru/software/info/students](http://ibm.com/ru/software/info/students)

## Контактная информация:

Алексей Полунин  
Координатор академических инициатив  
IBM Восточная Европа/Азия

[AlexeyPolunin@ru.ibm.com](mailto:AlexeyPolunin@ru.ibm.com)

Тел.: +7 495 775-8800 доб. 2291

Факс: +7 495 258-6463



www.ibm.com/university/ssme

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# Services Science, Management, and Engineering



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## What is SSME?

Services Science, Management and Engineering (SSME) is a new academic discipline and research area aimed at studying, improving and teaching services innovation. It is the application and integration of scientific, management and engineering disciplines to tasks that one organization beneficially performs for and with another (that is, "services").

The goal of the SSME discipline is to make productivity, quality, sustainability, learning rates and innovation rates more predictable across the service sector, especially in complex organization to organization services including business to business, nation to nation, government to population, and so on.

"... modern economies are both service economies and economies of innovation. Paradoxically, they are not regarded as economies of innovation in services, that is as economies in which service firms' innovation efforts are proportional to their contribution from the major economic aggregates. It is as if service and innovation were two parallel universes that coexist in blissful ignorance of each other."

(Collins, F. (2002). *Innovation in the Service Economy: The New Wealth of*

IBM Academic Initiative

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Related links

- Student Portal
- Solutions for higher

## SSME Highlights

[Services Science: A New Field for Today's Economy](#)

→ [SSME Conference: Education for the 21st Century](#)

[Trends in Services Science](#)

→ [How IBM is Applying Science to the World of Services](#)

→ [Big Blue Shift: IBM lowers costs without skimping on service](#)

→ [IBM Wakes Up to India's Skills](#)

→ [IBM urges universities to go multidisciplinary](#)

→ [What is "Service Science"?](#)

→ [The New Science](#)



# Чемпионат мира по программированию



**St. Petersburg State University  
of IT, Mechanics and Optics,  
ACM ICPC WORLD CHAMPION  
2008, 2009**

- Также известен под названием «Битва интеллектов»
- В течении 5 часов, командам из трех студентов необходимо решить 11 сложных задач
- В 2009 году участвовало более 7000 команд из более чем 1800 лучших университетов мира