Pontifical Catholic University of Rio de Janeiro
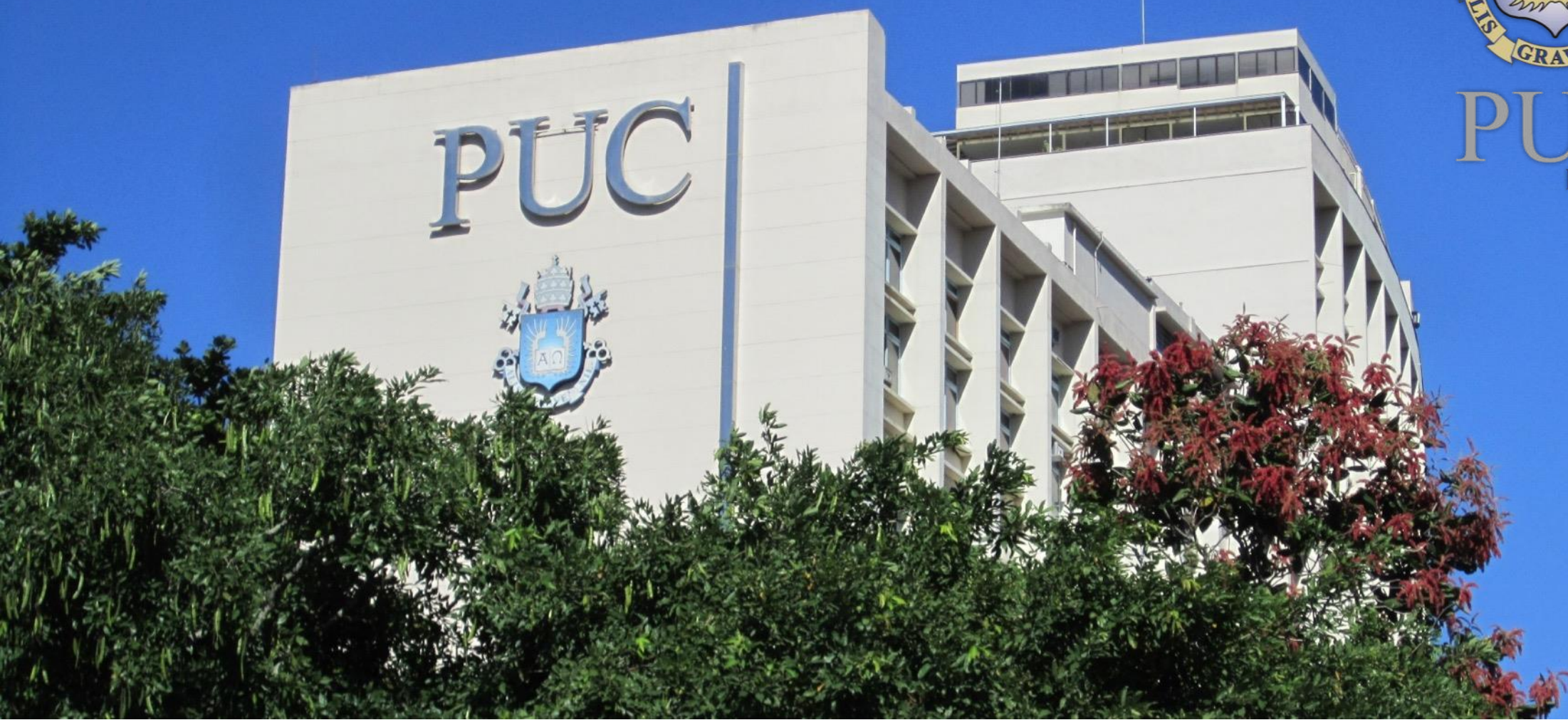
PUC-Rio is a philanthropic, nonprofit higher education community institution dedicated to teaching, researching and to the extension programs.

It welcomes students, staff members, teachers, researchers and administrators of all religions (or with no religions), nationalities, ethnic groups and social classes.

HISTORICAL DATA

1946 – PUC-Rio acquires the status of university.

1947 – Title "Pontifical".

2014 – Status of "Public non-state institution" (a communitarian university).

INSTITUTIONAL GUIDELINE

– the increasing search for academic quality.

– a prominent participation in the international universe of research and teaching.

– student's training for a culturally diverse job market.

NUMBERS

Students

Undergraduate* ....

11.020

Graduate ....

2.780
Faculty members
Continuing Education ....
Full time
6.961

.... 476

Part time ....

849

RANKINGS

World University Rankings 2020 by subject: computer science

1st position in the State of Rio de Janeiro and 4th in the country

University Impact Rankings 2019 by SDG: industry, innovation and infrastructure

The only Brazilian university ranked among TOP 100, occupying the 26th position in the world ranking

Latin America University Rankings 2019

4th position in Latin America,
3rd position in Brazil
1st position in Rio de Janeiro
Leader in Industry Income

Quacquarelli Symonds University Ranking (QS)

QS WORLD UNIVERSITY RANKINGS

Latin America 2018

13th position in the overall ranking
6th position in Brazil
2nd position in the State of Rio de Janeiro
4th in academic reputation in the Industry
1st private University in Brazil

Academic Centers and Graduate Programs

CAPES Ranking

Graduate Programs Evaluation

CAPES is the Government Agency responsible for the accreditation and regulation of all master and doctoral programs in the country.

Among other activities, it carries out the annual follow-up and quadrennial evaluation of all graduate programs and courses that integrate the Graduate National System.

Programs with Master and Ph.D. Courses:
3 (regular), 4 (good), 5 (very good), 6 and 7 (excelent)

Note: Highest score (M/D) = 7
Highest score (M) = 5

THEOLOGY AND HUMAN SCIENCES CENTER (CTCH)

Graduate Programs

❖ Architecture – M - 3
❖ Education – M/D - 6
❖ Design – M/D - 5
❖ Language Studies– M/D - 5
❖ Literature, Culture, and Contemporaneity– M/D -5

❖ Philosophy – M/D - 5
❖ Psychology – M/D - 5
❖ Theology – M/D - 4

M: Academic Master
D: Ph.D.

Note: Highest score (M/D) = 7
Highest score (M) = 5

Social Sciences Center (CCS)

Graduate Programs

- Business Administration – M/D/MP - 5
- Economics – M/D - 7
- Geography – M/D - 4
- International Relations – M/D - 5
- Analysis and Management of International Policies: Conflict Resolution and Development Cooperation – MP - 3

- Law – M/D - 5
- Macroeconomics and Finance – MP - 4
- Social Communication – M/D - 4
- Social Cultural History – M/D - 5
- Social Sciences – M/D - 4
- Social Work – M/D - 5
- Sustainability Science – MP *

M: Academic Master
D: Ph.D.
MP: Professional Master
* Just started

Note: Highest score (M/D) = 7
Highest score (M) = 5

SCIENCE AND TECHNOLOGY CENTER (CTC)

Graduate Programs

- ❖ Chemistry – M/D - 5
- ❖ Civil Engineering – M/D - 6
- ❖ Computer Science – M/D - 7
- ❖ Electrical Engineering – M/D - 7
- ❖ Logistics– MP - 4
- ❖ Materials Engineering and Chemical and Metallurgical Processes – M/D - 5

- ❖ Mechanical Engineering – M/D - 7
- ❖ Mathematics – M/D - 7
- ❖ Metrology – M - 5
- ❖ Physics – M/D - 6
- ❖ Production Engineering – M/D - 5
- ❖ Urban and Environmental Engineering – MP - 3

M: Academic Master
D: Ph.D.
MP: Professional Master

Note: Highest score (M/D) = 7
Highest score (M) = 5

Main Research Areas and Special Projects

SCIENCE AND TECHNOLOGY CENTER (CTC)

❖ **Materials Engineering and Chemical and Metallurgical Processes**

- Environmental Technologies
- Extraction, Synthesis and Chemical Processing of Materials
- Material Performance and Integrity
- Materials Processing and Characterization
- Microstructure Engineering

- Mineral Processing
- Nanostructured Materials / Characterization
- Nanostructured Materials / Synthesis
- Phase Transformation
- Steel Production

❖ **Mechanical Engineering**

- Dynamic Systems and Control
- Energetic Systems
- Fluids Engineering
- Heat and Mass Transfer
- Petroleum Engineering
- Pipeline Engineering
- Solid Mechanics
- Thermal Machines

❖ **Production Engineering**

- Production System Planning and Operations
- Programming and Control of Production Systems and Operations
- Transport and Logistic System Planning
- Logistic Transport System Control and Programming
- Corporative Finance
- Capital Markets

Science and Technology Center (CTC)

Main Research Areas and Special Projects

❖ **Civil Engineering**

- Advanced Cementitious Materials
- Applied Computer Graphics
- Computational Geomechanics
- Damage and Fracture of Materials
- Environmental Geotechnics
- Experimental Geotechnics
- Instability and Dynamics of Structures
- New Methodologies in Engineering
- New Methodologies in Engineering
- Non-Conventional Materials and Sustainability
- Petroleum Geomechanics
- Reinforced and Prestressed Concrete Structures
- Rock Mechanics and Applied Geology
- Steel and Composite Structures
- Variational and Computational Methods

❖ **Mathematics**

- Analysis and Differential Equations
- Combinatorics
- Computer Graphics and Geometry Processing
- Differential Geometry
- Dynamical Systems
- Mathematical Physics
- Probability and Stochastic Processes
- Topology

❖ **Computer Science**

- Computer Graphics
- Computer Networks and Distributed Systems
- Data Science
- Database
- Human-Computer Interaction
- Hypertext and Multimedia
- Optimization and Automatic Reasoning
- Programming Languages
- Software Engineering
- Theory of Computation

Main Research Areas and Special Projects

SCIENCE AND TECHNOLOGY CENTER (CTC)

❖ **Physics**

- Astroparticle physics and Neutrino Phenomenology
- Complex Systems
- Experimental Physics applied to Astrophysics and Planetary Sciences
- Heavy Quarks Experimental Physics
- Manufacture and Optical Characterization of Nanomaterials and Plasmonic Nanodevices
- Molecular Biophysics
- Molecular Optoelectronics
- Nanotribological and Mechanical Characterization of Materials
- Non-Destructive Magnetic Characterization of Materials
- Non-equilibrium Statistical Physics and Granular Systems
- Optical Spectroscopy of Bi-Dimensional Materials
- Phenomenology of Particle Physics
- Photonic Devices in Fibers and Glass
- Protective Coatings and Nanostructured Materials
- Quantum Optics
- Topological order and Spintronics
- Transport and Electronic Properties of Nanoscopic System

❖ **Institute of Technology of PUC-Rio (ITUC)**

- Calibration Services
- Materials Engineering and Product Analysis
- Mechanical Properties and Behavior of Materials
- Solar energy
- Vehicular Engineering

Main Research Areas and Special Projects

SCIENCE AND TECHNOLOGY CENTER (CTC)

❖ **Electrical Engineering**

- Antennas
- Computational Intelligence
- Digital Transmission System
- Electronic Instrumentation
- Linear and Nonlinear Statistical Models
- Optoelectronics and Instrumentation
- Planning and Operation in Power Systems

- Probabilistic Methods Applied to Power Systems
- Quantum Communication
- Radio Propagation
- Robotics
- Satellite Communication Systems
- Signal Processing
- Signal Processing for Communications

❖ **Chemistry**

- Energy, Environment and Sea Science
- Nanosciences, Interfaces and Colloids
- Drugs and Chemical-Biological Interactions
- Analytical Methods and Metrological Quality

❖ **Metrology for Quality and Innovation**

- Instrumentation and Measurement
- Intelligent Networks (smart Grid)
- Strategic Management of Innovation and Sustainability

PRINT / PUC-Rio

The "PRINT/PUC-Rio" comprises 40 projects organized into 7 themes:

- ❖ Contemporary Art and Culture;
- ❖ Data Science;
- ❖ Energy and Environment;
- ❖ Fundamental Science;
- ❖ Governance and Public Policies;
- ❖ Materials and Devices;
- ❖ Social Dynamics.

Contemporary Art and Culture

Partner countries: 12
*Argentina, Chile, Colombia, Denmark, France, **Germany**, Mexico, Portugal, South Africa, Spain, United Kingdom, United States of America.*

Graduate Programs (PUC-Rio):
Education (6), Philosophy (5), Literature, Culture and Contemporaneity (5), International Relations (5).

Data Science

Partner countries: 9
*China, Denmark, France, **Germany**, Italy, Netherlands, Norwegian, United Kingdom, United State of America.*

Graduate Programs (PUC-Rio):
Economics (7), Production Engineering (5), Electrical Engineering (7), Language Studies (5), Informatics (7).

Energy and Environment

Partner countries: 23
*Argentina, Australia, Canada, Chile, Colombia, Denmark, Finland, France, **Germany,** India, Ireland, Italy, Japan, Nederland, Norwegian Portugal, Spain, Russia, Sweden, Switzerland, United Kingdom, United States of America.*

Graduate Programs (PUC-Rio):
Business Administration (5), Economics (7), Civil Engineering (6), Production Engineering (5), Electric Engineering (7), Materials and Chemical and Metallurgical Processes Engineering (5), Mechanical Engineering (7), Geography (4), Metrology (5), Chemistry (5).

Fundamental Science

Partner countries: 11
*Argentina, Belgium, Canada, Denmark, France, **Germany**, Italy, Norwegian, Portugal, United Kingdom, United States of America.*

Graduate Programs (PUC-Rio):
Language Studies (5), Philosophy (5), Physics (6), Mathematics (7), Chemistry (5).

Governance and Public Policies

Partner countries: 19
*Argentina, Canada, Chile, China, Colombia, Denmark, France, **Germany,** Israel, Italy, Mexico, Netherland, Norwegian, Portugal, South Africa, Spain, Switzerland, United Kingdom, United States of America.*

Graduate Programs (PUC-Rio):
Business Administration (5), Social Sciences (4) , Social Communication (4) , Law (5), Economics (7), Education (6), Philosophy (5), History (5) , Psychology (5), International Relations (5), Social Work (5).

Materials and Devices

Partner countries: 18
*Argentina, Austria, Belgium, Canada, China, Colombia, France, **Germany,** Italy, Japan, Mexico, South Africa, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States of America.*

Graduate Programs (PUC-Rio):
Civil Engineering (6), Electrical Engineering (7), Materials and Chemical and Metallurgical Processes Engineering (5), Mechanical Engineering (7); Physics (6), Chemistry (5) .

Social Dynamics

Partner countries: 19
Argentina, Belgium, Canada, Chile, Colombia, Denmark, Finland, France, __Germany__, Italy, Japan, Mexico, Nederland, Norwegian, Portugal, Spain, Sweden, United Kingdom, United States of America.

Graduate Programs (PUC-Rio):
Social Sciences (4), Design (5), Law (5), Economics (7), Language Studies (5), Geography (4), Literature, Culture and Contemporaneity (5), Psychology (5).

Graduate Programs and Research
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