



Study Plan

School: Institute for Research and Advanced Training
Degree: Doctorate
Course: Educational Sciences (São Tomé and Príncipe) (cód. 581)

1st Year - 1st Semester

| Component code | Name | Scientific Area Field | ECTS | Duration | Hours |
|----------------|------------------------------------|-----------------------|------|----------|-------|
| PED09272D | Introductory Seminar | Education Sciences | 2 | Semester | 52 |
| PED09274D | Education and Contemporary Society | Education Sciences | 3 | Semester | 78 |
| PED09276D | Research Seminar I | Education Sciences | 5 | Semester | 130 |

Group of Options

| Component code | Name | Scientific Area Field | ECTS | Duration | Hours |
|----------------|---|--|------|----------|-------|
| FIL09197D | Detailed Problems of Contemporary of Philosophy I | Philosophy | 5 | Semester | 130 |
| GES07979D | Entrepreneurship and Innovation | Management | 8 | Semester | 208 |
| FIS09374D | Topics in History of Science | History and Philosophy of Science | 6 | Semester | 156 |
| HIS09375D | History of Culture, Science and Society: Saber Agents, Knowledge and Innovation | History | 6 | Semester | 156 |
| FIS09429D | Topics in Philosophy of Science | History and Philosophy of Science | 6 | Semester | 156 |
| HIS09379D | Museums, Education and Scientific Culture | History and Philosophy of Science | 6 | Semester | 156 |
| MAT07516D | Statistical Inference | Mathematics | 7.5 | Semester | 198 |
| PSI09055D | In-deph Seminar in Psychology of Education I | Psychology | 5 | Semester | 130 |
| FIL10294D | Ethics and Responsibility of Organizations | Philosophy | 6 | Semester | 168 |
| ECN09308D | Culture, Politics and society in a Global Era | Legal-Political Theory and International Relations | 6 | Semester | 168 |

Thesis

1st Year - 2nd Semester

| Component code | Name | Scientific Area Field | ECTS | Duration | Hours |
|----------------|--|-----------------------|------|----------|-------|
| PED09275D | Knowledge Production and Transfer in Education | Education Sciences | 2 | Semester | 52 |
| PED09273D | Education and Knowledge | Education Sciences | 3 | Semester | 78 |
| PED09277D | Research Seminar II | Education Sciences | 5 | Semester | 130 |



1st Year - 2nd Semester

| Component code | Name | Scientific Area Field | ECTS | Duration | Hours |
|-------------------------|--|--|-------------|-----------------|--------------|
| Group of Options | | | | | |
| Component code | Name | Scientific Area Field | ECTS | Duration | Hours |
| FIL09199D | Detailed Problems of Contemporary of Philosophy II | Philosophy | 5 | Semester | 130 |
| MAT07988D | Methods of Multivariate Statistics | Mathematics | 6 | Trimester | 161 |
| MAT07537D | Categorical Data Analysis | Mathematics | 7.5 | Semester | 196 |
| PSI09056D | In-deph Seminar in Psychology of Education II | Psychology | 5 | Semester | 130 |
| FIL10294D | Ethics and Responsibility of Organizations | Philosophy | 6 | Semester | 168 |
| ECN09308D | Culture, Politics and society in a Global Era | Legal-Political Theory and International Relations | 6 | Semester | 168 |
| Thesis | | | | | |

2nd Year - 3rd Semester

| Component code | Name | Scientific Area Field | ECTS | Duration | Hours |
|----------------|------|-----------------------|------|----------|-------|
| Thesis | | | | | |

2nd Year - 4th Semester

| Component code | Name | Scientific Area Field | ECTS | Duration | Hours |
|----------------|------|-----------------------|------|----------|-------|
| Thesis | | | | | |

3rd Year - 5th Semester

| Component code | Name | Scientific Area Field | ECTS | Duration | Hours |
|----------------|------|-----------------------|------|----------|-------|
| Thesis | | | | | |

3rd Year - 6th Semester

| Component code | Name | Scientific Area Field | ECTS | Duration | Hours |
|----------------|------|-----------------------|------|----------|-------|
| Thesis | | | | | |

Conditions for obtaining the Degree:

*** TRANSLATE ME: O plano de estudos do doutoramento foi reestruturado, tendo entrado em funcionamento em 2012/13 o seguinte plano de estudos (DR n.º141, de 23 de julho de 2012, Despacho n.º9908/2012)

Para aprovação na componente curricular, curso de doutoramento com 30 ECTS), é necessário a aprovação (através de avaliação ou creditação) das seguintes unidades curriculares:

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1º Semestre{\newline

- 3 UC Obrigatórias num total de 10 ECTS {\newline

- UC Optativas disponíveis no plano de estudos no quadro 8, num total de 5 ECTS{\newline

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2º Semestre{\newline

- 3 UC Obrigatória num total de 10 ECTS {\newline

- UC Optativas disponíveis no plano de estudos no quadro 9, num total de 5 ECTS

Para obtenção do grau necessita de obter também aprovação nas provas públicas de defesa da Tese, decorrendo a investigação (Tese) desde o 1º ao 6º semestre, com um total de 150 ECTS.

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Topics in History of Science (FIS09374D)

Historical perspective of social, economic and cultural.

Historical perspective of the construction of big science - Scientific Theories.

History of Science in the 19th century change: Comte, Mach, Tannery and Duhem.

History of Science in the 20th century: Sarton, Congress, Bachelard, Koyré, Merton, Kuhn, Lakatos and Holton.

Scientific controversy: impacts and communication.

Study some of the controversies in the scientific focus of Physics.

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History of Culture, Science and Society: Saber Agents, Knowledge and Innovation (HIS09375D)

1. Topics in History of Science

2nd. Sources, Methods, Historiography – seminar work, study visits: History and Culture of Science XVIII-XXI centuries

3rd. History of Science, History of scientific culture and the 'Public Understanding of Science', History Museum of Natural History, Collecting, scientific heritage. The different subject areas of History of Science

4th. History of Science, Health, research networks

5th. History of Science (XX): institutions of science policy, Europe / USA: State and political science.

6th. Science and scientific production of memory and rituals of scientific memory.

7th. Urban areas and organization of Science in European capitals / capital of colonial empires. Case studies: in search of an array of urbanism and organization of scientific knowledge in towns. a. Hill Health b. Hill's Science: Academy of Sciences of the National Museum of Natural History and Science, c. Hill agricultural and colonial



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Museums, Education and Scientific Culture (HIS09379D)

- One. Museology as cultural history
- 2nd. Investigate in Museology - method, concepts and sources
- 3rd. Museums and education - a historical perspective: relations with the disciplinary history of collecting, museums and museology. Education as museological function.
- 4th. The semantic evolution of modern museum and its setting in the Enlightenment.
- 5th. The Renaissance and Early Modern Period (XV-XVII centuries)
- 6th. The chambers of wonders
- 7th. The wonderful and magical
- Eight. The encyclopedic spirit
- 9th. University reforms and new museums and scientific equipment
10. Art and antiquity - museum, heritage and arts education
11. Challenge of Vanguards Museum (Artists, Architects, Writers)
12. Museums and social distinction. The innate (the 'predestination' a 'grace' and 'gift') and acquired.
13. Evolution and scope of the museum concept.
14. Science centers and movement "hands on".
15. Museum of Science and Technology, Science Centers, Planetariums, Museums of Natural History.

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Statistical Inference (MAT07516D)

1. Fundamental concepts of probability (measure and probability, random vectors, marginal and conditional distributions, expected values, generating and characteristics functions, functions of random vectors and transformations).
2. Review of discrete and continuous distributions properties. Exponential families. Multinormal and multinomial distributions.
3. Sampling and the most used sampling distributions.
4. Point estimation. Estimation methods (moments, maximum likelihood, least squares and bayes estimators). Properties of estimators. Crámer-Rao lower bound. Asymptotic behaviour. Robustness.
5. Interval estimation. Methods for finding interval estimators. Properties. Classical and bayesian approach.
6. Hypotheses testing. Type I and Type II probability errors. Duality. Methods for finding testes. Likelihood ratio tests. Properties of tests. Neyman-Pearson theorem, most powerful tests. Asymptotic behaviour. Robustness. Classical and bayesian approach.
7. Non-parametric tests.

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