

## **Título - CET in Instituto Politécnico de Santarém**

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### **Abstract:**

The current paper shows the evolution of Technological Specialization Courses in Santarém's Polytechnic Institute. Various aspects concerning the trainees/students are covered. Various profiles, such as geographical origin of the trainees, previous academic certificates, academic success in the courses, and professional track of those that have completed the courses. As to the those who have finished the courses, we present data concerning professional outcomes, entrance and continuation of studies in Santarém's polytechnic Institute and academic success in the next academic level (6, licenciatura). The information was gathered from the direction IPS.FORM, directions of schools, course coordinators and academic services of schools.

Keywords: Technological Specialization Courses; Polytechnic Institute of Santarém; CET; DET; level 5.

### **Introduction**

Technological Specialization Courses or Cursos de Especialização Tecnológica (CET) are post secondary, non higher education degrees which confer a level 5 professional qualification, in a 1 to 8 scale, and are regulated by Decreto-Lei n.º 88/2006, 23<sup>rd</sup> May [3]. O Instituto Politécnico de Santarém (IPSantarém), Polytechnic Institute of Santarém,

has had CET's functioning since the 2007/2008 academic year. Eleven CET's are registered (Table 1), nine in Escola Superior Agrária de Santarém (ESAS), agricultural school, of which one is to be cancelled, and two in e dois na Escola Superior de Gestão e Tecnologia de Santarém (ESGTS), school of management and technology.

Of these eleven only four are running in ESAS and two in ESGTS, totalling 82 trainees in ESAS (completing their training in July 2011) and 37 in ESGTS (which will soon finish their training). One of the courses in ESAS (Segurança e Higiene Alimentar/Food safety and hygiene) is on its fourth year.

A course on WEB Applications Programming (60 ECTS), promoted by Escola Superior de Educação de Santarém (ESES), school of education, is in the process of being created, authorized and registered. This school predictably will present two new courses. Escola Superior Saúde de Santarém (ESSS) has three courses which are about to be registered (Home Support, Geriatric Support and Health and Support in Sports) Escola de Desporto de Rio Maior (EDRM), in partnership with a school of training has the intention of registering a course on Swimming Pool Maintenance.

Table 1 – CET's registered by IPSantarém

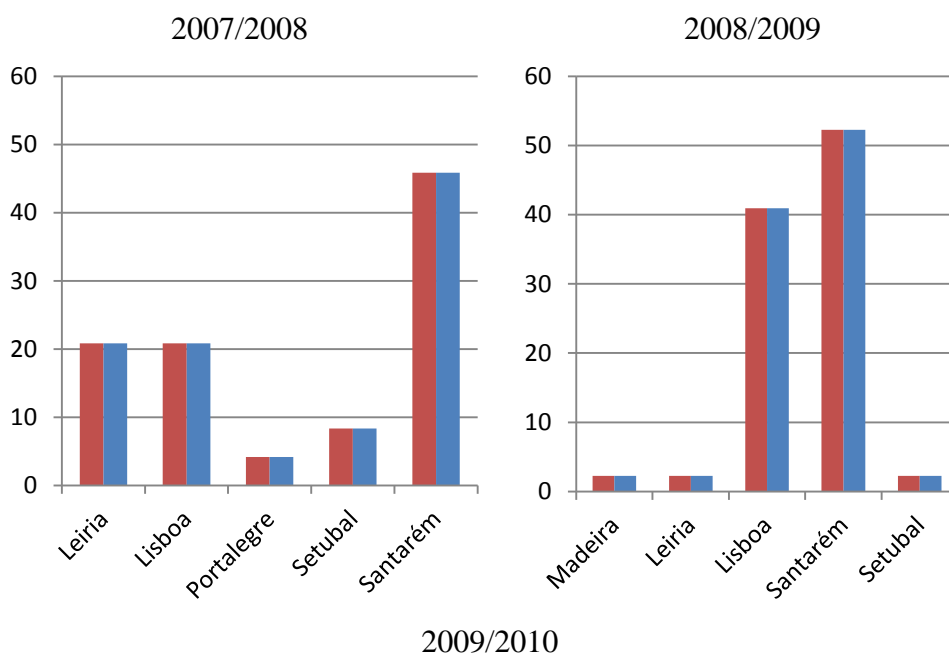
Course code	Denomination	ECTS	Duration	CNAEF training area		Legislation	
				Code	Technical area	Description	Date
7132	Segurança e Higiene Alimentar/food safety and hygiene	60	2 Semestres	541	Indústrias Alimentares	Despacho n.º 10861/2008	14-04-2008
7133	Sistemas de Informação Geográfica/Computerized geographical systems	60	2 Semestres	581	Arquitectura e Urbanismo	Despacho n.º 10862/2008	14-04-2008
7160	Cadastro e Avaliação de Propriedades/Property evaluation	60	2 Semestres	581	Arquitectura e Urbanismo	Despacho n.º 10860/2008	14-04-2008
7202	Tecnologias de Produção Integrada em Hortícolas/Integrated production Technologies in horticulture	60	2 Semestres	621	Produção Agrícola e Animal	Despacho n.º 10868/2008	14-04-2008
7102	Instalação e Manutenção de Redes e Sistemas Informáticos/Installation and maintenance of computerized networks and systems	67	3 Semestres	481	Ciências Informáticas	Despacho n.º 21361/2008	14-08-2008
7101	Desenvolvimento de Produtos Multimédia/Development of multimédia products	76	n.d.	481	Ciências Informáticas	Despacho n.º 1117/2009	13-01-2009
7185	Cuidados Veterinários/Veterinary care	60	2 Semestres	640	Ciências Veterinárias	Despacho n.º 16335/2009	16-07-2009
7214	Viticultura e Enologia/Viticulture and winemaking	60	2 Semestres	621	Produção Agrícola e Animal	Despacho n.º 1769/2010	26-01-2010
7245	Olivicultura e Tecnologia do Azeite/Olive tree and olive oil production	60	2 Semestres	621	Produção Agrícola e Animal	Despacho n.º 1767/2010	26-01-2010

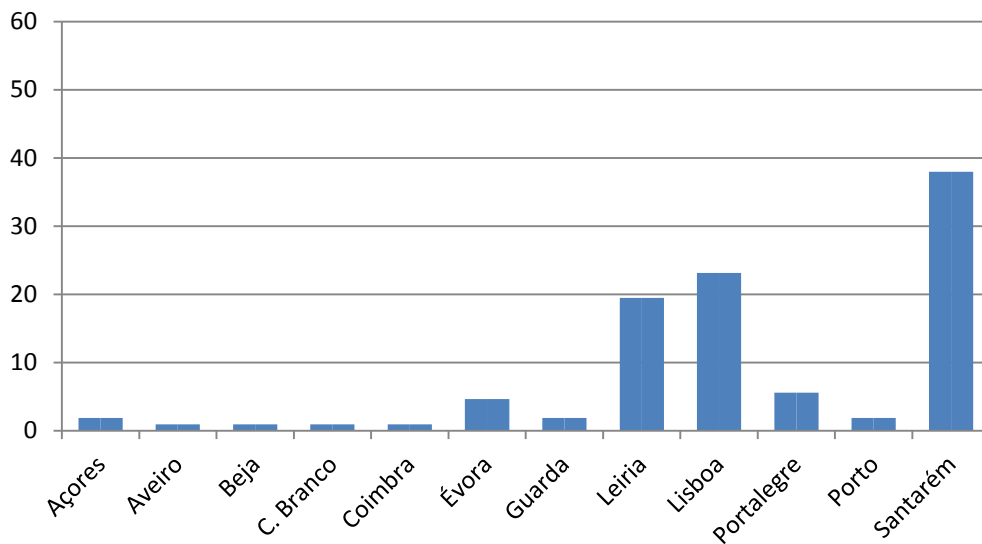
7248	Maneio e Utilização do Cavalo/Horse management and utilization	60	2 Semestres	621	Produção Agrícola e Animal	Despacho n.º 12656/2010	05-08-2010
7199	Mecanização e Tecnologia Agrária/Agrarian mechanization and technology	60	2 Semestres	621	Produção Agrícola e Animal	Despacho n.º 2157/2011	28-01-2011

n. d. – not determined yet

### Profile of candidates to CET's

In the analysis of the profiles of the candidates we have used data on the courses we have functioning for a longer period of time in ESAS, because there is more data to analyse. As for the geographical origin of the candidates, in Figure 1 we can check on the distribution by district of origin in each academic year. We can see that candidates predominantly come from the district of Santarém, then Lisbon and Leiria. Foreign candidates, which are sons or relatives of immigrants, live in the district of Santarém. There is also a reduced number of candidates from Azores and Madeira. It can be seen that our courses are sought by candidates from different national regions, especially from the South, such as Portalegre, Setúbal, Beja, Évora and Faro.





2010/2011

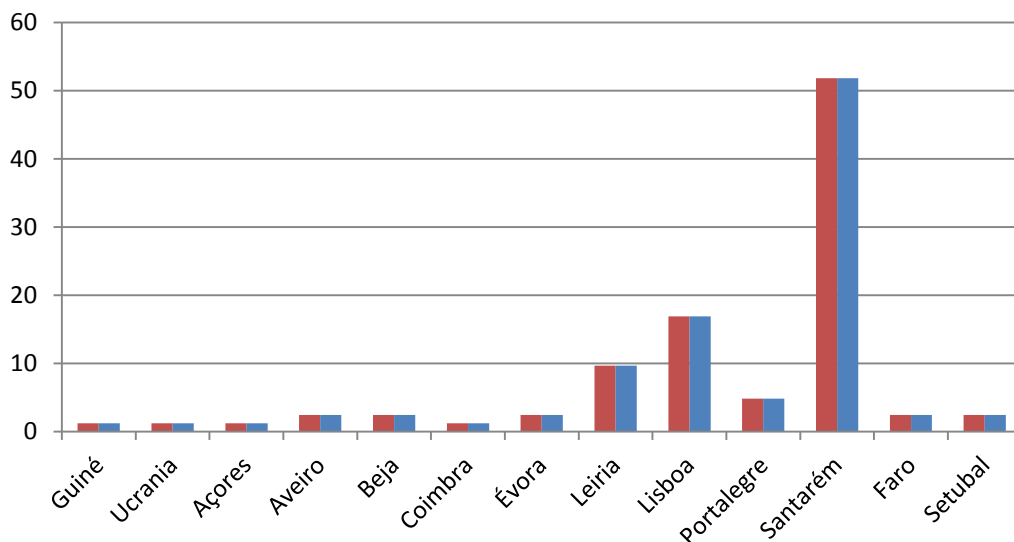


Figura 1 – Geographical origin of candidates to CET's in IPSantarém

The distribution of the candidates' academic degrees is shown in Figure 2. From its analysis we can conclude that they predominantly have a previous level 3 course (nível 3), followed by those with, completed or incomplete, track of twelve years of study (12º ano). From this we understand that CET's are more appealing to candidates which come from previous level professional courses. However, even though sporadically, there are also candidates with a university degree looking for professional training which they did not get from their previous degree.

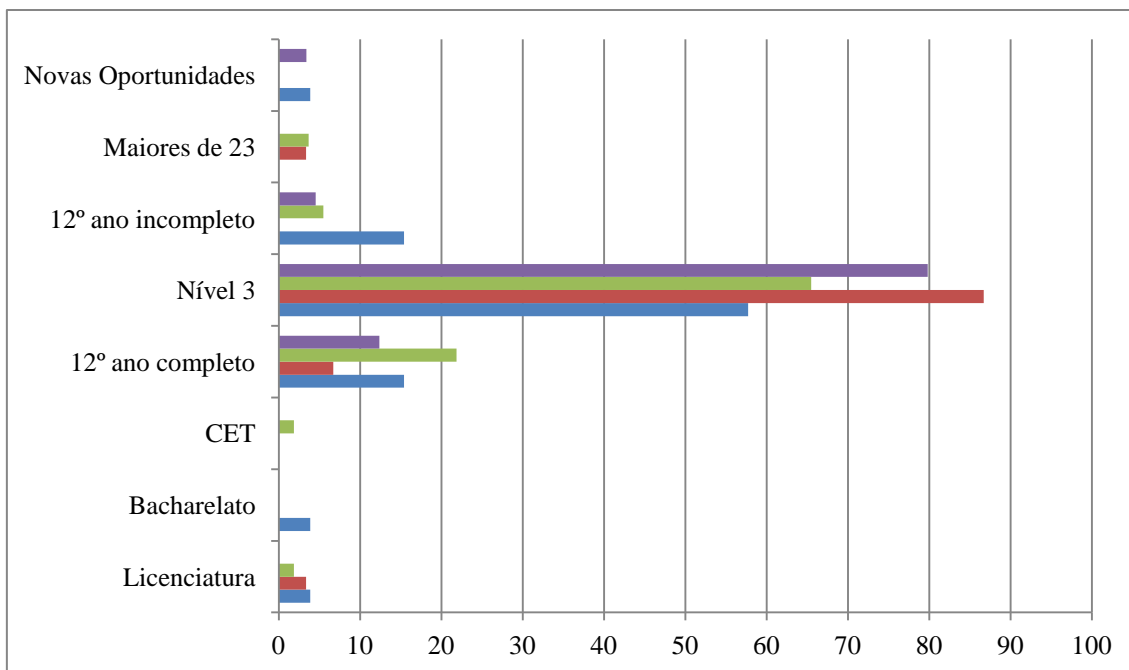


Figure 2 – Academic degrees of candidates to CET's in the 2007/2008 - 2010/2011 interval

In the distribution of gender in trainees of CET's, in Table 2 it can be concluded that that there is not a tendency; with some years prevailing male trainees and others females, with an alternation in gender.

Table 2 – Distribution of gender in CET's trainees

CET	2010/2011		2009/2010		2008/2009		2007/2008	
	M	F	M	F	M	F	M	F
Segurança e Higiene Alimentar	4	20	9	11	7	13	16	8
Cuidados Veterinários	9	11	10	7	8	12		
Manejo e Utilização do Cavalo	4	12	11	7				
Tecnologias de Produção Integrada em Hortícolas	0	0	16	6				
Viticultura e Enologia	14	5						

M – male; F - female

In Table 3 we can envisage the evolution of the number of candidates, which has grown annually, their placement in courses and those which have successfully completed the courses. Over seventy percent of them have succeeded in finishing the course.

Table 3 – Candidates, candidacies accepted and completion of courses in ESAS

Academic year	Nr. candidates	Accepted	Completion
2007/2008	30	25	24
2008/2009	69	56	40
2009/2010	117	90	77
2010/2011	158	103	-

## Professional track after obtaining the degree [Diploma de Especialização Percurso Profissional (DET)]

Anyone holding a certificate of a CET may apply to enter the next academic level (Licenciatura) in a course which is related to CET and allows the continuation of studies. These candidates will have some curricular units of previous courses credited on the next course, which is dependent upon the affinity between the previous course with the one that follows. In Table 4, the evolution of candidates applying for Licenciatura holding a CET certificate from ESAS or outside ESAS. An increase can be noticed and there is a predominance of candidates with a DET that want to carry on with their studies in the same school they obtained their certificate.

Table 4 – Candidates, with a DET, applying to a Licenciatura (next level) in ESAS

Academic year	DET from ESAS	DET outside ESAS	Total
2008/2009	15	12	27
2009/2010	26	16	42
2010/2011	59	29	88

From the analysis of Table 5 we can track the behaviour of CET Segurança e Higiene Alimentar (Food Safety and Hygiene) DET certificate holders from ESAS.

Table 5 – Number of candidates completing (Approved) CET Segurança e Higiene Alimentar (SHS) (ESAS) (Food Safety and Hygiene) and their situation after the course

Academic year	Approved	In job	Went into ESAS
2007/2008	24	9	15
2008/2009	20	6	14
2009/2010	20	2	18

In 2007/2008 of the 24 that finished the CET 62,5 % entered ESAS, in 2008/2009 70 % in 20 and in 2008/2010 90 % of 20 finishing the course. The number of elements on a job has lowered and it can also be concluded that those working are doing that in the main professional area of the CET.

In Table 6 we analyse which courses in the next level (6) (Licenciatura) were chosen by candidates holding a CET SHA certificate.

Table 6 – Number of candidates having completed CET SHA and followed into Engenharia alimentar (Food engineering) in the next academic level

Academic year	Candidates with CET SHA	Candidates in Engenharia Alimentar
2008/2009	15	5
2009/2010	14	11
2010/2011	18	16

In the first edition of the course 33 % chose Engenharia Alimentar (Food engineering), in the second 78,5 %, and in the third 89 %. We thereby conclude that there has been option based on the affinity between courses and the articulation between curricular

contents of both courses. CET candidates show a growing, very targeted choice of the training areas.

In the attempt to evaluate the academic success of the trainees as students in the next academic level and analyzing the number of curricular units they leave behind each academic year, we have found that in the 2007/2008 and 2008/2009 editions they left behind a higher number of curricular units (4) and in the last edition (2009/2010) that, on average, corresponded to 3 units. Even though there is not enough data to evaluate this, we consider it fundamental to accompany the track these students, recognizing and characterizing academic failure, identifying and implementing corrective measures, in order to increase success rate [6]. Also, even though these data refer only to the CET SHA, the tendency for DET holders to go into an ESAS course related to the CET happens in all CET's in ESAS, as we show in the Table 7. This further reinforces the tendency for choice to be based on the affinity between courses in both academic levels.

Table 7 – Number of candidates that have completed CET's at ESAS and have gone into the next level (6) courses (Licenciatura)

CET	Nr. candidates with CET	Nr. entering Licenciatura (level 6)	Licenciatura
Tecnologias de Produção Integrada em Hortícolas	22	17	Engenharia Agronómica
Cuidados Veterinários (2 editions)	37	19	Engenharia Produção Animal
Maneio e Utilização do Cavalo	18	13	Engenharia Produção Animal

### Financing of CET's

On what concerns financing of CET's, Decreto-lei n.º 88/2006, which regulates these courses, according to artigo (article) 47:

- 1- CET's are considered in the functioning budget attributed to teaching and training activities, referred in artigo 4º of Lei n.º 37/2003, 22<sup>nd</sup> August, which was altered by Lei n.º 49/2005, 30<sup>th</sup> August.
- 2- Financing is also considered in the formula in artigo 4º of Lei n.º 37/2003, 22<sup>nd</sup> August, being calculated based on the number of trainees, and, with the necessary adaption to level and nature of the courses, through the application of criteria, standard values and performance indicators that are there foreseen.
- 3- Public financing will be attributed if there is a minimum of 15 trainees.

Public financing before, a new mode of financing contrato de confiança (contract of confidence) [1], was made by amounts defined by the respective minister. In the current year financing was to be attributed according to contract of confidence, by an increase in the budget that would then be transferred to the institutions. That has not happened. IPSantarém does not know how CET's that have to be financed will actually be financed, because the only source of revenue, fees (Table 7), only covers, in the brightest scenery, with a third of the expenses – if it is assumed trainers are exclusively paid on an hourly basis of payment.

Table 8 – Fees paid for a CET in IPSantarém

Academic year	Fees (€)
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2007/2008	500
2008/2009	500
2009/2010	528
2010/2011	557

## Conclusion

Since these courses being courses recently introduced are another working instrument that was put at the institutions of higher education's consideration, recommended because of their professional nature, especially for polytechnics. They have the objective of qualifying youngsters and adults, including requalification. These courses have had behind them a policy that orients them integrate level 5 technicians in the job market, with a particular focus on regional economies, allowing also that they may enter university, crediting the skills that were acquired in CET's [3]. As we have previously seen the increase in candidates' interest for these courses as led to an increase in students in IPSantarém, as happens in similar institutions. This increase is partly due to a better marketing, which relies on a better awareness of students of the existence of CET's. Former trainees have been the best marketing tool. Besides this, some of courses in the next level have need students coming from CET's, which enter through a special candidacy system. In some courses, if students were to come only from other sources, there would not be a minimum of 20 students in the Licenciatura level (6) in the common regime, a condition necessary for them to be financed by public financing.

On the other hand, Development Programmes (Planos de Desenvolvimento) which polytechnics were asked to come up with [6], and established in contrato de confiança, signed in January 2010, by Government and Public Higher Education Institution, generally, reinforced the priorities the contract, namely the qualification of workers and the Portuguese population by generalization of CET's. We therefore consider that if financial constrains are solved these courses give answer to important needs in regional development, not only in lifelong learning activities for local populations, but also, due to their heavy professionalizing nature and by the chance they give young people to continue of studying, not leave an academic track sooner, and thereby reinforcing the social dimension of higher education [2] through better skills, contributing to employability, social inclusion and personal fulfillment.

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