PROCEEDINGS OF SPIE

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Photonics Academy: TOPS project

Nick Tyson, Vicky Barwis, Faris Maghuk

Nick Tyson, Vicky Barwis, Faris Maghuk, "Photonics Academy: TOPS project,"
Proc. SPIE 9666, 11th Education and Training in Optics and Photonics
Conference, 966610 (5 June 2009); doi: 10.1117/12.2208041

SPIE.

Event: Eleventh International Topical Meeting on Education and Training in
Optics and Photonics, 2009, St. Asaph, United Kingdom

TOPS PROJECT

7th July 2009

- **Nick Tyson – Head of Faculty - Engineering & Built Environment**
- **Vicky Barwis – Marketing and External Funding Manager**
- **Faris Maghuk - Technician**

Deeside College
Coleg Glannau Dyfrdwy

Overview of the Session

- Introduction to the project (VB)
- Overview of Engineering at Deeside College & Modern Apprenticeship delivery options. (NT)
- Course Content Technician programme (FM)
- Any Questions

Technicians in Opto-Electronics Project [TOP]

- Funded By the Welsh Assembly Government and run by the photonics academy 2006-2009

Main Aims:

- Development of a Technicians Course
- Marketing to young people
- Leadership and Management Sessions

Technicians in Opto-Electronics Project [TOP] Cont.

Targets:

- Develop and pilot training with at least 10 learners.
- Implement a Marketing Plan.
- Raise awareness of the sector with young people to increase new entrants into the sector.
- Engage Employers in Development.
- Provide information on leadership and management

Engineering & Manufacturing Technologies @ Deeside College

- **Management Team :- HoF ; 5 x PAMS ; Work-based Supervisor.**
- **Staff: 26 lecturing staff ; 22 Technical Training Officers ;
4 Instructor Demonstrator, 5 Assessors ; 4 Admin.**
- **Programme Areas :- Aerospace ; Mech/Elect ; Fab & weld ; Motor Vehicle.**
- **A team of dedicated Staff employed to support Photonics and Opto
electronics training**

Deeside College – Photonics lab

Apprenticeship Frameworks:

Photonics Apprenticeship

***Foundation Modern
Apprenticeship***

Modern Apprenticeship

***Knowledge Based Element.
Technical Certificate @ L2***

***Knowledge Based Element.
Technical Certificate @ L3***

***Competence Based Element.
NVQ @ L2***

***Competence Based Element.
NVQ @ L3***

***Key Skills @ L1 & Employer
Responsibilities***

***Key Skills @ L2 & Employer
Responsibilities***

**Example 1: Photonics
Modern Apprenticeship**
Yr 1 September 2009

Apprentice attends Deeside College on a Full Time Basis to complete an NVQ L2 and a Technical Certificate L3

Yr 2 September 2010

Apprentice based in Company 'A' and commences NVQ L3. Apprentice attends college on a day release basis to complete Technical Certificate L3

Yr 3 September 2011

Option: Depending on company requirements. Apprentice can continue @ college to complete HNC /Foundation Degree

Yr 4 September 2012

Completion of NVQ L3 and Modern Apprenticeship. (1 additional year to complete HNC/Fd – June 2013.

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Apprenticeships:

"Industry owned and led, SEMTA aims to increase the impact of skilled people throughout the science, engineering and manufacturing technologies sectors".

Example 2: SEMTA Sponsored Pilot Scheme Shared Modern Apprenticeship (Follow same training pathway as example 3)

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semta

Learners on a National Award programme complete a unit in the Principles of Photonics at the Optics Technium at St. Asaph. Photonics is the science of generating, controlling and detecting photons. It is closely related to the optics industry and controlling the particle properties of light. Learners work with a world-leading organisation in this advanced technology. They attend lectures and complete practical activities in photonics to a very high standard. This unit of study is the first of its type in the UK. (*Estyn, Her Majesty's Inspectorate for Education and Training in Wales October 2008 Deeside College*)

TOP's Project to date – what have we achieved?

- **Extended existing provision by Deeside**
- **Content of delivery driven by local need**
- **New 'Photonics Engineering' pathway through existing framework**
- **New/existing level 3 NVQs in photonics**
- **Technical Certificate (BTEC) for underpinning knowledge including units of Photonics.**

TOP's Framework

- Support in delivery given by Ray Davies - Optic
- TOPS will develop much needed workplace skills
- Assessments via practicals and assignments

Recap:

- Technician Training available now
- Allow companies to up skill and grow
- Fills a much needed training gap
- Employers to take up the offer!
- 7 Apprentices and 50 FT students to date.

TOPS PROJECT

7th July 2009

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