

# **Ballyhaunis Community School**



**2017/18**

## **Technical Graphics & DCG Plan**

### **Subject Co-ordinator**

- Mr Patrick McGarry

### **1. Teaching Staff**

- Mr. Patrick McGarry : Senior Cycle/Junior Cycle
- Mr. Patrick Noone : Senior Cycle/Junior Cycle
- Mr. Sean McHugh : Junior Cycle
- Mr. Colin Quinn : Junior Cycle

### **2. Department Rooms**

- I4, D1, D3 and D4

### **3. Equipment**

- T-Squares and ancillary drawing equipment
- Data Projector x 4
- Teacher Desktop Computers x 4
- Student Desktop Computers x 20
- Visualiser
- A3 Scanner
- A4 Printer x 2 (1 Colour)
- A3 Printer x 2
- Digital Camera

### **4. Time Allocation**

- 1<sup>st</sup> Year : 1 double (1 year-taster programme)
- 2<sup>nd</sup> Year : 1 double and 2 singles per week
- 3<sup>rd</sup> Years : 1 double and 1 single per week
- TY : Varies per year
- 5<sup>th</sup> & 6<sup>th</sup> Year : 1 double and 3 singles

## **5. Mission statement**

**“The Technical Graphics and DCG department aspires to provide a safe, stimulating environment where all students can develop their practical and academic skills to fulfil their goals”**

## **6. Subject Aims**

- To develop the capacity and ability of students in the area of visuo-spatial reasoning.
- To apply appropriate thinking skills in the realisation of solutions.
- To develop appropriate graphical skills for communication.
- To develop the use of Information Technology.
- To develop the cognitive and practical skills associated with communication graphics, problem solving and critical thinking.
- To develop appropriate technical skills for the construction of drawings.
- To provide a learning environment where students can plan, organise and present appropriate design solutions using a variety of skills, techniques and media.
- To provide a basis for lifelong learning.
- To develop an appreciation for, and understanding of, aesthetic principles and their importance in design and the human environment.

## **7. Subject Objectives**

***On completion of their studies students should be:***

- Familiar with the principles, concepts, terminology and methodologies associated with the graphics code.
- Able to apply the principles of both plane and descriptive geometries to the solution of a variety of concrete and abstract graphic problems.
- Able to produce neat and accurate drawings that comply with internationally recognized standards and conventions.

- Able to model in two and three dimensions, graphic design problems and solutions, utilising a range of appropriate techniques and media with confidence and discernment.
- Appreciative of the facility which the graphics code provides, in the solution of problems and in the visual communication of data.
- Able to utilise freehand sketching, both two and three dimensional, as a means of communication and as an aid to spatial reasoning and refinement.
- Able to utilise a variety of rendering and presentation techniques in the solution of graphic design problems, in both two and three dimensions.
- Competent and confident in the application of CAD and other appropriate Information and Communications Technologies (ICT) in the solution, modelling and presentation of graphic design solutions, in two and three dimensions.
- Able to interpret verbal, written and mathematical information, and to represent it graphically.

#### **8. Grouping of Pupils (Mixed ability, Streaming)**

- Technical Graphics is an optional subject and consequently all groups are of mixed ability. However, early in their 3<sup>rd</sup> year, students opt for Higher / Ordinary level after discussion with their Parents / Guardian and their teacher. Students are all generally encouraged to take the Higher level paper where possible.
- In 5<sup>th</sup> year all students follow the common level in DCG and they also decide on their level by the end of that year in consultation with Subject Teachers.
- Both the Honours and Ordinary groups are taught in the same classroom.

## **9. Textbooks and Course Materials**

- **1st Year : No Textbook**
- **2<sup>nd</sup> & 3<sup>rd</sup> Years : Understanding Technical Graphics (G&M)**
- **TY : No Textbook**
- **5<sup>th</sup> & 6<sup>th</sup> Year : DCG Solutions Workbook (Kora King)**

## **10. Planning for students with special needs**

The TG & DCG department caters for students with special needs in the following ways:

- The subject lends itself to one-to-one teaching thus assisting students with learning difficulties.
- Teachers liaise regularly with school's learning support co-ordinators Mrs Lyons & Ms Hayes. Relevant information from student profiles is exchanged where appropriate.
- Realistic expectations and suitable homework plans are devised & implemented.
- Teachers also liaise with tutors, parents and school management.

## **11. Cross-curricular planning**

This is particularly relevant as there is overlap between Maths, Geography, Art, Construction Studies, and DCG. Whenever possible the link is established between subjects to tie the individual subjects together to show the bigger picture of education. As the Drawing staff are also practical teachers the links between this subjects is especially highlighted. The link between Maths is also emphasised and discussed both formally and informally with the Maths department to establish common links between the courses.

## **12. Homework Procedures**

Homework has a role in consolidating the work done in class. Regular study will help promote good learning habits. It allows the student to work on their own initiative, and take responsibility for their own learning. Each student must have the necessary textbooks. Homework must be done conscientiously and in a tidy manner. The co-operation of parents in this area is absolutely essential. Homework should be divided evenly over the week. All students must have a Homework Journal to record all homework assigned. The Journal should be used as a means of communication between parents and teachers.

Teachers may occasionally, allow students to do homework in school to check how long it takes the average student to complete the task.

No student will be punished for getting homework wrong, but teachers will insist on seeing evidence that it was attempted. Homework is corrected and a comment made enlightening students as to where they may make improvements in the future.

Homework is given at the end of every class and is relevant to what was covered in that class. The amount of HW will vary, depending on whether the class was a double or a single and on when the next class will be. The amount will also depend on the year group and the general ability of the group.

Homework is always checked and noted in the student's journal and teacher's diary if not done by a student. Homework will often come in the form of completion of work done in class.

The average or suggested time expected following each class:

- 1<sup>st</sup> Year – 10/15 minutes
- 2<sup>nd</sup> Year – 10/15 minutes
- 3<sup>rd</sup> Year – 15/20 minutes with extra time at weekends for revision

- **5<sup>th</sup> Year – 15-25 minutes with extra time at weekends for revision**
- **6<sup>th</sup> Year – 25-35 minutes with extra time at weekends for revision and especially during the Student Assignment period.**

### **13. Record Keeping Procedures**

Record of results, absenteeism, 'lates', behaviour etc are recorded in the teacher's journal and is also recorded on the schools VS-ware facility where deemed appropriate.

### **14. Reporting Procedures**

Depending on what has to be reported dictates to whom the reporting is done. For disciplinary matters the reporting may be to the Year Head / Principal. This is primarily done via the school VS-ware facility but also through face-to-face discussions to get a more personal understanding on any issues.

For matters relating to "child abuse" the reporting must be to the Designated Liaison Person. This report should be written.

Matters relating to a child's academic performance may be reported to parents at a specially arranged meeting and parent teacher meetings.

### **15. Teacher in-career development**

Patrick Mc Garry, Patrick Noone and Colin Quinn have completed the 13 in-service training courses for the new Leaving Certificate DCG, 2006-2009.

There has been no in-service training for Technical Graphics in recent years. It is anticipated that this will be addressed with the onset of the new Junior Cycle.

## **16. Subject Meetings**

Time is allocated to formal subject meetings during the year. Topics include organization of common curriculum, order lists or new IT and drawing equipment, organization of rooms, paperwork associated with exams, discipline, class sizes, students with learning difficulties, books, new *Literacy and Numeracy* initiatives etc.

Teachers frequently consult each other regarding matters arising. These subject meetings are very valuable. Teachers frequently consult each other on a more in-formal basis regarding matters arising. These subject meetings are very valuable. See Appendix 2 for a copy of department meetings.

See also Appendix 3 for Leaving Cert examinations results which are frequently discussed and evaluated and these Subject Meeting. Strategies to improve results are often debated and recorded. Areas where we perform well against the national figures are also acknowledged.

## **17. Literacy and Numeracy Policy**

### **Reasons to integration of Numeracy and Literacy in Tech Gr. & DCG**

- The universal language of *design and graphic representation* helps bridge and overcome many literacy barriers.
- Keywords to describe the skills mastered in Technical Graphics and DCG are easily identifiable and can help the student associate with the meaning of that particular term.
- Where pupils struggle with the language to represent their ideas there is huge scope to use other *practical* means to communicate.
- Literacy is encouraged through the use of posters on the wall with new terms explained.
- Numeracy is an integral part of TG and DCG. Links between Mathematics and Technical Graphics are often seen and easily recognised to the students. This is especially focused upon with the short Junior Certificate questions.



### **Strategies for Improving Literacy and Numeracy**

- Students label sheet in title box and label each view they draw.
- The DCG student assignment requires students to explain, compare, discuss, analysis various products. Thesauruses/Dictionary and internet are encouraged to find adjectives to describe shapes etc.
- A print rich environment is in the classroom both 2d and 3d.
- Topics are explained and demonstrated explicitly to students.
- Class discussions are encouraged using relevant terms/descriptions.
- Students compare and contrast themes and ideas when designing products.
- Students are encouraged to organise and convey their written work accurately through the use of annotations. Huge emphasis placed on size/accuracy and proportion at all levels.
- Measurement conversion is also emphasised

### **18. Assessments/Examinations Procedures**

In line with the recent introduction of semesterisation in BCS, formal assessment of learning occurs at three stages throughout the year. Typically, this will occur in mid-November, mid-February and at the end of May. State examination students in 3<sup>rd</sup> and 6<sup>th</sup> year will sit 'mock' examinations in February in a structured examination setting.

At the end of a section a teacher may give an examination to assess the learning in the particular topic. Assessment for learning continues on throughout the year where teachers monitor student's progress by speaking to students while they draw and by structured questioning throughout classes. The results of all formal examinations are relayed to parents in the form of a report. Examination of student's folders is also a key component in final assessment for all year groups.

## **Assessment for Learning**

One of the aims of the Technical Graphics/DCG department is that *Assessment for Learning* (AfL) becomes a central aspect of the methodology used in assessment of the subject. Assessment for learning is characterized by the following:

- ✓ Sharing Learning goals with students – this to be shared at the beginning and end of the class
- ✓ Helping students to recognise the standards they are aiming for – examples of past work shown where possible
- ✓ Involving students in assessing their own learning – this can be used when students are completing exam papers
- ✓ Providing feedback, helps students to recognise what they must do to close any gaps in their understanding and knowledge – this can be achieved by giving oral feedback to students
- ✓ Communicating confidence – each student is encouraged and given support to demonstrate their abilities.
- ✓ Adjusting teaching methods to meet the needs of all students – the teaching team strive to be flexible in their teaching style to meet the needs of all students' ability.

See appendix 1 for an example of an AfL strategy used with first year students to develop awareness of learning. We are currently developing additional strategies to assist in this area.

## **19. Technical Graphics - Topic by Topic**

### **First Year**

1. Learning to draw
2. Inclined Lines
3. Angles
4. Basic Constructions
5. Triangles
6. Polygons
7. Orthographic Projection 1
8. Pictorial Drawing 1
9. Freehand Sketching
10. The Ellipse
11. Circle 1
12. Developments 1

### **Second Year**

1. Orthographic Projection 2
2. Pictorial Drawing 2
3. Transformation Geometry
4. Areas
5. The Parabola
6. Auxiliary Projection
7. Circles
8. Rotation of Objects
9. The Ellipse and Parabola 2
10. Transformation Geometry 2

### **Third Year**

1. Solids in Contact
2. Enlargements and Reductions
3. Developments
4. Geometrical Solids
5. CAD
6. Solidworks
7. Short Questions
8. Perspective

<b>First Year</b>	<b>BCS Technical Graphics Scheme of Work</b>	
<b>Term</b>	<b>Topic</b>	<b>Assessment</b>
<b>Term 1</b>	<b>Learning to Draw</b>	
<b>Sept-Oct</b>	<ul style="list-style-type: none"> <li>• Introduction to Technical Graphics</li> <li>• Use of drawing equipment</li> <li>• Standard page layout</li> <li>• Fireplace Drawing – Embellish where appropriate</li> <li>• Speedo / Pizza Hut / CAO Logos</li> <li>• <b>(Additional Logos <u>where appropriate</u>)</b></li> </ul>	Review of students work in class
	<b>Inclined Lines</b> <ul style="list-style-type: none"> <li>• Lines + printing,</li> <li>• Vertical, horizontal, inclined lines- printing practice.</li> <li>• Construction work</li> <li>• Lotto / EA Sports / Nike Logos/Ulster Bank</li> <li>• <b>(Additional Logos <u>where appropriate</u>)</b></li> </ul>	Review of students work in class
	<b>Angles</b> <ul style="list-style-type: none"> <li>• Set square angles, similar angles (compass), types of angles, calculation of angles (protractor work)</li> </ul>	Homework Worksheets
		Review of students work in class
<b>Oct- mid Dec</b>	<b>Basic Constructions</b> <ul style="list-style-type: none"> <li>• Bisect lengths, angles. Division of a line. Perpendicular lines. In-circle and circumcircle</li> </ul>	Review of students work in class
	<b>Triangles</b> <ul style="list-style-type: none"> <li>• Types of triangles, methods of construction, theorems on same.</li> </ul>	Homework Worksheets
	<b>Polygons</b> <ul style="list-style-type: none"> <li>• Types and methods of drawing, polygons used in design.</li> </ul>	
<b>Christmas Test</b>	<b>Logos / Constructions</b>	<b>Marking scheme + review of folder work</b>
<b>Term 2</b>		

<b>Jan-mid Feb</b>	<b>Orthographic Projection 1</b> <ul style="list-style-type: none"> <li>Plans, elevations, end views for basic shapes.</li> <li>Ortho from 3-d</li> <li>Relationship to everyday life.</li> </ul>	Homework Worksheets + <b>Topic Test</b>
<b>Mid Feb - April</b>	<b>Pictorial Drawing 1</b> <ul style="list-style-type: none"> <li>Oblique projection/Isometric Projection. Simple figures.</li> <li>Cubes, prisms, simple inclined shapes.</li> <li>Oblique from Oblique</li> <li>Oblique from Isometric</li> <li>Oblique from orthographic</li> </ul> <b>Freehand Sketching</b> <ul style="list-style-type: none"> <li>Lines/Technique, Circles, prisms, Cylinders, right solids, shading</li> </ul> <b>The ellipse</b> <ul style="list-style-type: none"> <li>Basic construction, Concentric/Trammell, location of focal points, construction of tangent to point on curve.</li> </ul>	Review of students work in class  Homework Worksheets
<b>Term 3</b>		
<b>April-Jun</b>	<b>Circles 1</b> <ul style="list-style-type: none"> <li>Constructions on same, introduction to tangents, locating centres, concentric and eccentric circles.</li> <li>Inscribed and circumscribed circles.</li> <li>Tangents External and internal tangents.</li> <li>Circles in contact 1.</li> <li>Designs based on same.</li> </ul> <b>Developments 1</b> <ul style="list-style-type: none"> <li>Cuboids, Prisms, Cylinders, packaging incorporating all.</li> </ul> <b><u>End of Year Test</u></b> <ul style="list-style-type: none"> <li><b>Orthographic Projection</b></li> <li><b>Ellipse</b></li> <li><b>Pictorial Drawing</b></li> </ul>	Homework Worksheets  Review of students work in class

<b>Second Year</b>	<b>BCS Technical Graphics Scheme of Work</b>	<b>Second Year</b>
<b>Term</b>	<b>Topic</b>	<b>Assessment</b>
<b>Term 1</b>	<b><u>Orthographic Projection 2</u></b>	
<b>Sept-Oct</b>	<ul style="list-style-type: none"> <li>• More complex shapes and solids. Problems involving 1<sup>st</sup> and 3<sup>rd</sup> angle projection.</li> </ul> <p><b>Pictorial Drawing 2</b></p> <ul style="list-style-type: none"> <li>• More complex oblique-Curves and Circles</li> <li>• Isometric Projection from Isometric</li> <li>• Isometric projection from Orthographic</li> <li>• Isometric projection by scale</li> <li>• Axonometric projection from Isometric 1</li> </ul> <p><b>Transformation Geometry 1</b></p> <ul style="list-style-type: none"> <li>• Central symmetry, Axial symmetry, Translations and Rotations of simple and complex objects/figures. Problems on same.</li> </ul>	<p>Homework Worksheets</p> <p><b>Topic Test</b></p> <p>Homework Worksheets</p> <p><b>Topic Test</b></p>
<b>Term 2</b>	<b>Areas</b>	
<b>Oct- Dec</b>	<ul style="list-style-type: none"> <li>• Calculation of areas using grids. Basic construction of converting the following; triangle→rectangle→ square</li> <li>• Square → rectangle→ triangle</li> <li>• Converting complex figures to new shapes.</li> </ul> <p><b><u>The Parabola</u></b></p> <ul style="list-style-type: none"> <li>• Constructing the parabola using rectangular/eccentricity method and constructing tangents to the curve.</li> </ul> <p><b><u>Auxiliary elevations and plans/True Shape.</u></b></p> <ul style="list-style-type: none"> <li>• Sections on prisms and pyramids. Horizontal and vertical sections. Introduction to true shapes. Indexing.</li> </ul> <p><b><u>Circles 2</u></b></p> <ul style="list-style-type: none"> <li>• More complex problems, e.g. logos, containers etc. Complex circular shapes and exercises,</li> </ul>	<p>Homework Worksheets</p> <p><b>Topic Test</b></p> <p>Homework Worksheets</p> <p><b>Marking scheme + review of folder work</b></p> <p>Homework Worksheets</p>

<b>Term 3</b>		
<b>Jan-March</b>	<p><b><u>Rotations of Objects</u></b></p> <ul style="list-style-type: none"> <li>• Rotations through the various view Orthographic Views.</li> </ul> <p><b>The ellipse and Parabola 2</b></p> <ul style="list-style-type: none"> <li>• More complex and problem solving exercises on the ellipse which would include tangents (internal &amp; external). Supplementary methods for constructing the ellipse.</li> <li>• Constructing the parabola using rectangular method and constructing tangents to the curve.</li> </ul>	<p>Homework Worksheets <b>Topic Test</b></p> <p>Homework Worksheets <b>Topic Test</b></p> <p>Review of students work in class</p>
<b>March</b>	<ul style="list-style-type: none"> <li>• <b>Sketching</b></li> <li>• <b>2d and 3d</b></li> <li>• <b>Solidworks</b> Introduction – Interface briefing plus sample modelling.</li> </ul>	Homework Worksheets
<b>April-Jun</b>	<p><b>Pictorial Drawing 3</b></p> <ul style="list-style-type: none"> <li>• Construction of axonometric planes. Construct axonometric view of solids by projecting from given views. Identifying and indexing of views. Problems on same.</li> </ul> <p><b>Transformation Geometry 2</b></p> <p>Central symmetry, Axial symmetry, Translations and Rotations of simple and complex objects/figures. Problems on same.</p>	<p>Review of students work in class</p> <p>Homework Worksheets</p> <p>Homework Worksheets</p>
	<b><u>End of Year Test</u></b>	

<b>Third Year</b>	<b>BCS Technical Graphics Scheme of Work</b>	
<b>Term</b>	<b>Topic</b>	<b>Assessment</b>
<b>Term 1</b>	<b>Solids in Contact</b>	
<b>Sept-Oct</b>	<ul style="list-style-type: none"> <li>Pyramids, prisms, cones and spheres in contact. Finding points of contact between solids. Problems on same.</li> </ul> <p><b>Enlargements and Reductions</b></p> <ul style="list-style-type: none"> <li>Enlarging and reducing figures using grid paper, polar point and radiating lines method.</li> </ul> <p><b>Developments 2</b></p> <ul style="list-style-type: none"> <li>Developments of prisms, pyramids, cones, cylinders. Developments of simple containers. Developments of sloped and curved simple exercises. Use of indexing.</li> </ul>	<p>Homework Worksheets <b>Topic Test</b></p> <p>Review of students work in class</p> <p>Homework Worksheets <b>Topic Test</b></p> <p>Review of students work in class</p>
<b>Term 2</b>	<b>C.A.D</b>	
<b>Oct- Dec</b>	<ul style="list-style-type: none"> <li>Terminology and theoretical aspects-no computers. Identification and application of computer software and hardware. Familiarisation of various tools in CAD software package. (Very limited availability of computers)</li> </ul> <p><b>Short Questions</b></p> <ul style="list-style-type: none"> <li>Introduction through Ordinary and Higher level past papers</li> </ul> <p><b>Perspective</b></p> <ul style="list-style-type: none"> <li>1 and 2-point perspective and exercises on same</li> </ul>	<p>Homework Worksheets</p> <p>Review of students work in class</p> <p><b>Topic Test</b></p> <p>Homework Worksheets</p>
<b>Term 3</b>	<b>Revision of Topics for Mocks</b>	
<b>Jan-Feb</b>		
<b>Feb - June</b>	<b>Exam Papers –Revision where appropriate</b>	



## **Junior Cycle Statements of Learning**

1. Communicate effectively using a variety of means in a range of contexts in L1.
2. Listens, speaks, reads and writes in L2 and one other language at a level of proficiency that is appropriate to her or his ability.
3. Creates, appreciates and critically interprets a wide range of texts.
4. Creates and presents artistic works and appreciates the process and skills involved.
5. Has an awareness of personal values and an understanding of the process of moral decision making.
6. Appreciates and respects how diverse values, beliefs and traditions have contributed to the communities and culture in which she/he lives.
7. Values what it means to be an active citizen, with rights and responsibilities in local and wider contexts.
8. Values local, national and international heritage, understands the importance of the relationships between past and current events and the forces that drive change.
9. Understands the origins and impacts of social, economic, and environmental aspects of the world around her/him.
10. Has the awareness, knowledge, skills, values and motivation to live sustainably.
11. Takes action to safeguard and promote her/his wellbeing and that of others.
12. Is a confident and competent participant in physical activity and is motivated to be physically active.
13. Understands the importance of food and diet in making healthy lifestyle choices.
14. Makes informed financial decisions and develops good consumer skills.
15. **Recognises the potential uses of mathematical knowledge, skills and understanding in all areas of learning.**
16. Describes, illustrated, interprets, predicts and explain patterns of relationships.
17. **Devises and evaluates strategies for investigating and solving problems using mathematical knowledge, reasoning and skills.**

18. Observes and evaluates empirical events and processes and draws valid deductions and conclusions.
19. Values the roles and contribution of science and technology to society, and their personal, social and global importance.
20. Uses appropriate technologies in meeting a design challenge.
21. Applies practical skills as she/he develop models and products using a variety of materials and technologies.
22. Takes initiative, is innovative and develops entrepreneurial skills.
23. Brings an idea from conception to realisation.
24. Uses technology and digital media tools to learn, communicate, work and think collaboratively and creatively in a responsible and ethical manner.

L1 is the language medium of the school. L2 is the second language.

### **Junior Cycle Key Skills**

❖ Being creative

❖ Managing Information and thinking

❖ Managing myself

❖ Communicating

❖ Working with others

❖ Staying well

❖ Being literate

❖ Being numerate

*The Statements of Learning and Keys Skills, as identified in the new Junior Cycle are listed above. We have identified and highlighted the relevant areas for Technical Graphics in BCS and will continue to work towards achieving these in the future.*

## **20. DCG Course Content**

### **1. Core Areas of Study**

- Plane and Descriptive Geometry
- Projection Systems
- Plane Geometry
- Conic Sections
- Descriptive Geometry of Lines and Planes
- Intersection and Development of Surfaces
- Communication of Design and Computer Graphics
- Graphics in Design and Communication
- Communication of Design
- Freehand Drawing
- Information and Communication Technologies

### **2. Optional Areas of Study**

- Applied Graphics
- Dynamic Mechanisms
- Structural Forms
- Geologic Geometry
- Surface Geometry
- Assemblies

### **Course assessment**

The syllabus will be assessed in relation to the syllabus objectives and the specified student learning outcomes. All material specified within the areas of study is examinable.

There are two assessment components

- A Student Assignment (40% of marks, of which CAD will form a significant and compulsory component)
- A terminal examination paper (60% of marks)

The purpose of the ***Student Assignment*** is to assess those elements of the course that cannot be readily assessed through the terminal examination, in particular elements of design and communication. The assessment criteria applying to completed Higher and Ordinary level assignments will differ. The learning outcomes related to the course assignment will result in students being able to:

- Represent design and communication information through sketches, drawings, CAD and other ICT applications
- Use appropriate presentation techniques, including colour, rendering and sketching, to represent an artefact and/or design
- Produce appropriately dimensioned 2D and 3D drawings and models using CAD
- Appreciate, analyse, evaluate and modify artefacts from a design perspective
- Demonstrate design and visualisation skills and techniques.

The assignment will take approximately 40 hours to complete. The completed assignment may take the form of:

- ❖ A design investigation and modification

or

- ❖ A design investigation and concept design

## **21. Information Technology**

Information technology is incorporated as much as possible into both the teaching and learning of DCG as it is recognised as imperative to satisfying the goals of the syllabus. Digital presentations are frequently used in class. Understanding Solidworks is fundamental to this course. The use of visualisers is also incorporated into the teaching of more intricate skills. Students are expected to use the internet to research and gain better understanding of material being covered. Students are encouraged to use the I.T. resources available on subject related websites such as T4 and E.T.T.A.

**Fifth Year Scheme of Work**

	TOPIC	DESCRIPTION	SYLLABUS
1-3	<i>Orthographic Projection</i>	Revision of basic fundamentals of topic. Projecting points between views Drawing curved surfaces	Core
4-5	<i>Auxiliary Projection</i>	Plans, elevations. Curved surfaces. Sectional views	Core
6-7	<i>Isometric/Oblique Projection</i>	Pictorial Views	Core
8-10	<i>Advanced Pictorial Drawing</i>	Axonometric, Diametric, Trimetric, Isometric scale	Core
	<i>MIDTERM</i>	<i>MIDTERM</i>	
11-13	<i>Perspective Projection</i>	One-point, Two-point perspective Auxiliary vanishing points	Core
14-16	<i>Oblique Plane (1)</i>	Introduction	Core
	<i>CHRISTMAS</i>	<i>CHRISTMAS</i>	
17-18	<i>Intersecting Surfaces</i>	Finding points of interpenetration using edge views, cut views, true shapes etc.	Core
19-21	<i>Lamina/Planes</i>	Representing the elements of geometry Concepts of viewing lines, planes, from different views, edges Section planes etc.	Core
22	<i>I.T. Skills. Solidworks Introduction</i>	Computer basics, file management. Inserting pictures, tables, charts etc. Solidworks Interface Commands introduction	Assignment
	<i>MIDTERM</i>	<i>MIDTERM</i>	
23-24	<i>Solidworks</i>	Features, Sketch, toolbar commands Memo Block, Calculator, T-Square, Calculator exercises Drawing sheet layout	Assignment
25-27	<i>Solids in Contact (1)</i>	Cones, Spheres, Cylinders in contact Tangency, points of contact, loci, internally tangential solids etc	Core
	<i>EASTER</i>	<i>EASTER</i>	

28-32	<i>Dynamic Mechanisms Assemblies 1</i>	<i>Involutes, Helix's, Special curves, Loci, Linkages, Cams, Gears</i>	<i>Options</i>
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**Sixth Year Scheme of Work**

WEEK	TOPIC	DESCRIPTION	SYLLABUS
1-4	<i>Conic Sections</i>	<i>Recognise features common to all Conic sections, Ellipse, Parabola, Hyperbola Eccentricities, conic ratio's, etc</i>	<i>Core</i>
5-8	<i>Developments/ Envelopments. Assignment</i>	<i>Prisms, curves surfaces. Cones and pyramids. Oblique solids. Envelopments Assignment research</i>	<i>Core</i>
9	<i>Sketching Techniques/Assignment</i>	<i>Shading, rendering Use of different drawing media</i>	<i>Assignment</i>
10-15	<i>MIDTERM Student Assignment</i>	<i>MIDTERM Higher Level = 14 pages Ordinary Level = 12 pages</i>	<i>Assignment</i>
16	<i>Projection continuation CHRISTMAS</i>	<i>Hard and Soft Copy Review CHRISTMAS</i>	<i>Assignment</i>
17-18	<i>Projection completion</i>	<i>Final check list Bind folder, burn CD</i>	<i>Assignment</i>
19-21	<i>Mock Preparation</i>	<i>Variety of Topics</i>	<i>C&amp;O</i>
21-22	<i>Mocks Exams</i>	<i>Mocks Exams</i>	<i>Mocks Exams</i>
23-27	<i>Assemblies</i>	<i>Reading a diagram Orthographic recap Hatching – how/what to hatch</i>	<i>Options</i>

<b>28-31</b>		<b><i>Sectional views</i></b>	
	<b><i>EASTER</i></b>	<b><i>EASTER</i></b>	
	<b><i>Interpenetration (2)</i></b> <b><i>Oblique Plane (2)</i></b>	<b><i>Exam Papers</i></b>	<b><i>Core</i></b>
<b>31-33</b>		<b><i>Revise paper layout</i></b> <b><i>Suggested timing</i></b> <b><i>Recap all topics</i></b>	<b><i>Core/Options</i></b>
	<b><i>Exam Preparation</i></b>		

# *Appendices*





# Ballyhaunis Community School

**SUBJECT:** \_\_\_\_\_

**Teacher:** \_\_\_\_\_

**Student:** \_\_\_\_\_

**Class:** \_\_\_\_\_

**Target Grade:** \_\_\_\_\_

**Grade Achieved:** \_\_\_\_\_

**To be completed by student after work/exam has been corrected**

The areas I need to focus on to improve are



Two things I did well



What will I do differently to ensure I make progress?



Parent/Guardian Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# Ballyhaunis Community School

Verification of Croke Park Hours



## Planning & Development Work - Meeting Record

Subject Matter : **Technical Graphics/DCG**

Date : 28/8/17

Start Time : 4:00

Finish Time : 5:00

### Present:

Patrick McGarry, Patrick Noone, Sean McHugh, Colin Quinn

### What was discussed?

- New building – implications for our subject areas
- LC DCG results
- Reduced number of 3<sup>rd</sup> year classes
- Equipment

### What was decided?

- New DCG room (I4) is not fit for purpose – needs to be re-organised
- G1 temporary accommodation for secondary drawing room
- Satisfied with results but lacking in H1 grades – Too many students taking honours levels
- Urgently needs to be discussed with management – huge concern
- Awaiting delivery from suppliers

### What action points were agreed, if any?

- Discuss with contractor/management re I4 options
- G1 to be kitted out short term as best as possible
- Greater consideration to be taken re subject levels pursued by students
- Suppliers to be contacted asap

### Who will undertake these action points?

- All listed above
- Sean to liaise with contractor
- Patrick to liaise with supplier

### Date of next meeting:

### Signed:

- 1.
- 2.
- 3.
- 4.

# Ballyhaunis Community School

Verification of Croke Park Hours



## Planning & Development Work - Meeting Record

**Subject Matter : Technical Graphics/DCG**

**Date : 25/9/17**

**Start Time : 4:00**

**Finish Time : 5:00**

**Present:**

**Patrick McGarry, Patrick Noone, Sean McHugh, Colin Quinn**

**What was discussed?**

- New building – updates
- JC Technical Graphics results
- Reduced number of 3<sup>rd</sup> year classes -update
- Taster programme

**What was decided?**

- New DCG room (I4) has failed to work as a drawing room due to layout restrictions
- Satisfied with JC results always scope for improvement. In line with national averages
- Urgently needs to be discussed with management – still a huge concern
- Need to discuss with management to re-evaluate the process. Undecided if it should remain

**What action points were agreed, if any?**

- I4 needs to be changed. Need to liaise with contractor/furniture supplier asap
- Continue to promote T.Gr especially with the girls
- Increase the importance of homework especially with the reduced classes
- Need a whole school discussion on the taster programme and where it is going

**Who will undertake these action points?**

- All listed above
- Sean/Patrick to liaise with contractor/management
- Everyone to discuss with colleagues the merits of the taster programme and report back to management

**Date of next meeting:**

**Signed:**

- 1.
- 2.
- 3.
- 4.

