

## PROGRAMME SPECIFICATION

### KEY FACTS

Programme name	MSc in Temporary Works and Construction Method Engineering
Award	MSc
School	Mathematics, Computer Science and Engineering
Department or equivalent	Civil Engineering
Programme code	PSTWCM
Type of study	Full Time/Part Time
Total UK credits	180
Total ECTS	90

### PROGRAMME SUMMARY

Temporary works refers to works enabling the construction of, protection, support or provision of access to permanent works which might or might not remain in place at the completion of a construction project. Examples of temporary works include structures such as gantries for heavy plant, materials or accommodation as well as supports for partially completed or partially dismantled structures, excavations and accesses. The course will be run by the Centre of Excellence in Temporary Works and Construction Method Engineering which is sponsored by the Temporary Works Forum, which promotes best practice within the UK construction industry.

The course will address the regulatory background to temporary works for construction, the design of geotechnical, structural and marine temporary works, demolition, plant, safe working methods and access works. You will gain both the technical understanding to undertake safe but cost effective designs for a full range of temporary works and also a good understanding of the wide range of plant and techniques that can be employed. The programme will be delivered by a combination of industry experts providing insights into current practice in temporary works and academic members of staff experienced in the theory underlying the design methods employed. There will be visits to sites and practical exercises.

The programme aims to

1. Provide you with advanced knowledge in the design of temporary structural, geotechnical and marine structures.
2. Provide you with specialized knowledge of plant and appropriate working methods in the field of temporary works
3. Provide you with a clear understanding of the statutory obligations and regulatory framework controlling temporary works
4. Ensure that you understand the health and safety and CDM regulations and how they are applied to temporary works

#### **Postgraduate Certificate**

For all of you completing the Postgraduate Certificate in Temporary Works and Construction Method Engineering you will be able to examine the theories related to the design of temporary works and synthesis and apply these to the design of novel

structures and the assessment of existing structures. You will have critical insight into problems related to the design of one or more of the main types of temporary works and understand your statutory obligations and how to manage temporary works to ensure safety. You will also use a range of techniques to undertake your scholarly work.

### **Postgraduate Diploma**

For all of you completing the Postgraduate Diploma in Temporary Works and Construction Method Engineering. In addition to the above you will examine the full range of possible temporary works structures to broaden your expertise and skills. You will also evaluate critically the suitability of a range of plant, techniques and forms of temporary works to provide appropriate critiques of knowledge and techniques related to the selection of suitable temporary works and appropriate design methods and analysis techniques to ensure safe and sustainable designs

### **MA /MSc**

For all of you completing the MSc in Temporary Works and Construction Method Engineering you will demonstrate original application of knowledge to the design of temporary works and in choice of approaches to practice. You will be engaged in research or scholarly activity that contributes new views to the safe and sustainable design of temporary works.

## **WHAT WILL I BE EXPECTED TO ACHIEVE?**

On successful completion of this programme, you will be expected to be able to:

Knowledge and understanding:

- Assemble and critically evaluate the scientific principles relevant to temporary works and construction method engineering
- Formulate the particular commercial and safety constraints that apply to temporary works and propose the level of professional and ethical conduct that is required to satisfy these in temporary works and construction method engineering
- Provide a proposal showing where temporary works and construction method engineering fits within the context of construction management and business practices.
- Construct a document giving the regulatory requirements governing temporary works activities and the various roles these impose.
- evaluate risk issues in the context of temporary works and construction method engineering, including health & safety, environmental and commercial risk.
- Formulate an overview of plant and appropriate working methods in the field of temporary works
- Assemble a review of current practice and its limitations, and some appreciation of likely new developments
- Discuss the role of the temporary works coordinator within a construction team and the ability to exercise initiative and personal responsibility, as a team member or leader.

Skills:

- design, construct, implement, and manage temporary works systems including those where information is incomplete or uncertain and to understand the effect this may have on your design.
- apply the latest codes of practice and guidelines used for temporary works design
- generate innovative designs for products, systems, components or processes related to temporary works.
- critically evaluate current problems inherent in temporary works and construction method engineering informed by the state of the art in this field.
- apply appropriate engineering analysis methods to solve complex problems relating to temporary structural, geotechnical and marine structures and assess their limitations
- Critically evaluate the advantages of new temporary works systems and materials
- Collect and analyse research data and use appropriate engineering analysis tools in tackling unfamiliar problems, such as those with uncertain or incomplete data or specifications, by the appropriate innovation, use or adaptation of engineering analytical methods
- problem solve, communicate, retrieve information , work with others, and make effective use of general IT facilities

Values and attitudes:

- discuss how temporary works and construction method engineering activities should promote sustainable development and apply quantitative techniques to the assessment of sustainability where appropriate
- Plan self-learning and improve performance, as the foundation for lifelong learning/CPD

This programme has been developed in accordance with the Framework for Higher Education Qualifications in England, Wales, and Northern Ireland.

## **HOW WILL I LEARN?**

The rationale for learning, teaching and assessment strategies is predicated on the modelling of an active approach to learning in education. Thus, the learning and teaching strategies for each module will encompass a range of methods which support this objective, including lectures, workshops, group work, case studies, problem-based learning, presentations, and enhanced learning, self-reflection, and peer review.

Workshops, group work, case studies and problem-based learning will be used to build your ability to critically review and assess options for design and assessment of temporary works. These teaching approaches will require you to prepare for group sessions so that you can develop your knowledge further through active engagement. This will also require you to present your work occasionally, participate in peer review sessions and work in teams. There will be a strong practical element with site visits and opportunities to experience decision making in the field. Laboratory work will also form part of the course where applicable.

Your learning will be supported by an online learning environment Moodle which will provide resources for independent learning, such as further reading, links to wider sources of information and quizzes for self-assessment.

The learning and teaching approaches will require independent learning through your own reading which will be guided towards both greater understanding and critical evaluation of generic issues and supported by the online learning environment described above. You will be encouraged to take full advantage of opportunities for site visits and to examine and critically assess precedents for design in ongoing temporary works activities.

For each module taught in a single term you will spend 4 hours/week in lectures and in addition you should spend 12 - 16 hours in self-studying, reading, and working on assigned coursework depending on your entrance level and prior experience. Modules taught over two terms will require half the effort per week. Staff will be available for face-to-face meetings if needed to help guide you in your study.

## **WHAT TYPES OF ASSESSMENT AND FEEDBACK CAN I EXPECT?**

### Assessment and Assessment Criteria

Assessment for the programme is based on coursework and written examinations. The assessment strategy is that main fundamental and theoretical topics are primarily assessed by written examinations and applied (practice oriented) topics are assessed by design projects and in some case practical exercises.

The research project is assessed through a dissertation, which is significant written report on an independent piece of work that will enable you to apply knowledge, critical thinking and analysis to a topic which has either not been covered in the taught modules or not in such depth. The topic of the projects may be inspired by current research within civil engineering or by the needs of industry collaborators

Assessment Criteria are descriptions, based on the intended learning outcomes, of the skills, knowledge or attitudes that you need to demonstrate. Grade- Related Criteria are descriptions of the level of skills, knowledge or attributes that you need to demonstrate in order achieve a certain grade or mark in an assessment, providing a mechanism by which the quality of an assessment can be measured and placed within the overall set of marks. Assessment Criteria and Grade-Related Criteria will be made available to you to support you in completing assessments. These may be provided in programme handbooks, module specifications, on the virtual learning environment or attached to a specific assessment task.

### Feedback on assessment

Feedback will be provided in line with our Assessment and Feedback Policy. In particular, you will normally be provided with feedback within three weeks of the submission deadline or assessment date. This would normally include a provisional grade or mark. For end of module examinations or an equivalent significant task (e.g. an end of module project), feedback will normally be provided within three weeks. The timescale for feedback on final year projects or dissertations may be longer. The full

policy can be found at:

[https://www.city.ac.uk/data/assets/pdf\\_file/0008/68921/assessment\\_and\\_feedback\\_policy.pdf](https://www.city.ac.uk/data/assets/pdf_file/0008/68921/assessment_and_feedback_policy.pdf)

### Assessment Regulations

In order to pass your Programme, you should complete successfully or be exempted from the relevant modules and assessments and will therefore acquire the required number of credits.

The pass mark for each module is 50%. You need to attain a 50% mark for all assessment components.

If you fail an assessment component or a module, the following will apply:

1. Compensation: where you fail up to a total of 20 credits at first or resit attempt (15 for a Postgraduate Certificate), you may be allowed compensation if:
  - Compensation is permitted for the module involved (see the What will I Study section of the programme specification), and
  - It can be demonstrated that you have satisfied all the Learning Outcomes of the modules in the Programme, and
  - A minimum overall mark of no more than 10% below the module pass mark has been achieved in the module to be compensated, and
  - An aggregate mark of 50% has been achieved overall.

Where you are eligible for compensation at the first attempt, this will be applied in the first instance rather than offering a resit opportunity.

If you receive a compensated pass in a module you will be awarded the credit for that module. The original component marks will be retained in the record of marks and your original module mark will be used for the purpose of your Award calculation.

2. Resit: Where you are not eligible for compensation at the first attempt, you will be offered one resit attempt.

If you are successful in the resit, you will be awarded the credit for that module. The mark for each assessment component that is subject to a resit will be capped at the pass for the module. This capped mark will be used in the calculation of the final module mark together with the original marks for the components that you passed at first attempt.

If you do not meet the pass requirements for a module and do not complete your resit by the date specified you will not progress and the Assessment Board will require that you be withdrawn from the Programme.

If you fail to meet the requirements for the Programme, the Assessment Board will consider whether you are eligible for an Exit Award, as per the table below.

If you would like to know more about the way in which assessment works at City, please see the full version of the Assessment Regulations at:  
[http://www.city.ac.uk/data/assets/word\\_doc/0003/69249/s19.doc](http://www.city.ac.uk/data/assets/word_doc/0003/69249/s19.doc)

### WHAT AWARD CAN I GET?

#### Master's Degree:

	HE Level	Credits	Weighting (%)
Taught	7	120	67
Dissertation	7	60	33

Class	% required
With Distinction	70
With Merit	60
Without Classification	50

#### Postgraduate Diploma:

	HE Level	Credits	Weighting (%)
Taught	7	120	100

Class	% required
With Distinction	70
With Merit	60
Without Classification	50

#### Postgraduate Certificate:

	HE Level	Credits	Weighting (%)
Taught	7	60	100

Class	% required
With Distinction	70
With Merit	60
Without Classification	50

### WHAT WILL I STUDY?

There are 8 core modules to be taken in addition to the dissertation. The number and credits required to gain an award are identified in the table below.

Module Title	SITS Code	Module Credits	Core/ Elective	Compensation Yes/No	Level
<i>Taught modules</i>					
Introduction to Temporary Works	EPM611	15	Core	Yes	7
Temporary Works Structures 1	EPM612	15	Core	Yes	7
Temporary Works Structures 2	EPM613	15	Core	Yes	7

Geotechnical Temporary Works	EPM614	15	Core	Yes	7
Groundwater Control	EPM615	15	Core	Yes	7
Temporary Works for Marine Construction	EPM616	15	Core	Yes	7
Temporary Works for Demolition and Alteration	EPM617	15	Core	Yes	7
Temporary Works for Plant and Access	EPM618	15	Core	Yes	7
<i>Research modules</i>					
Dissertation	EPM619	60	Core	No	7

*You are required to complete all the taught modules successfully before progressing to the dissertation*

#### **TO WHAT KIND OF CAREER MIGHT I GO ON?**

This programme is for those of you who wish to enhance your understanding of the problems specific to temporary works and construction method engineering. Temporary works are an important aspect of most construction projects and consequently a qualification in this field will have widespread application to all civil engineering fields, whether you are working as an on-site engineer or as a design office engineer. You could also go to the research arena conducting innovative research in the area of temporary works.

If you would like more information on the Careers support available at City, please go to: <http://www.city.ac.uk/careers/for-students-and-recent-graduates>.

#### **WHAT STUDY ABROAD OPTIONS ARE AVAILABLE?**

The programme is currently available in the UK only

#### **WHAT PLACEMENT OPPORTUNITIES ARE AVAILABLE?**

Not appropriate to the programme

#### **WILL I GET ANY PROFESSIONAL RECOGNITION?**

Accreditation is currently being sought for the MSc as meeting the requirements for Further Learning for a Chartered Engineer (CEng) for candidates who have already acquired an Accredited CEng (Partial) BEng (Hons) or an Accredited IEng (Full) BEng/BSc (Hons) undergraduate first degree.

All our current MSc programmes in civil engineering are accredited and we expect that this programme will also be accredited.

See [www.jbm.org.uk](http://www.jbm.org.uk) for further information

## **HOW DO I ENTER THE PROGRAMME?**

Qualifications: Minimum Lower Second Class (2:2) degree or equivalent overseas qualification in Civil Engineering or equivalent degree.

For those students whose first language is not English or have not previously attended studies in English, the following qualification is also required:

IELTS: 6.5, including 6.5 in the writing category.

Please note that due to changes in the UKVI's list of SELTs we are no longer able to accept TOEFL as evidence of English language for students who require a CAS as of April 2014.

Version: 5.0

Version date: July 2016

For use from: 2016-17