

EPSRC Centre for Doctoral Training in Modelling of Heterogeneous Systems

HetSys

Student Handbook

2021/22

Coronavirus

Please refer to the University's most up-to-date advice: <https://warwick.ac.uk/coronavirus>

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EPSRC Centre for Doctoral Training in Modelling of Heterogeneous Systems – HetSys

Welcome

We would like to welcome you to the EPSRC Centre for Doctoral Training in Modelling of Heterogeneous Systems (HetSys).

We hope that you will enjoy developing your mathematical and problem solving skills with our training and find your time here to be productive and invaluable for your future career. We also look forward to learning about your ideas, insights and innovations.

We hope that by working together, you can build on your collective strengths, develop research skills and take advantage of the network of professional contacts you will create through this experience.

HetSys brings together colleagues from across the Science Faculty and the Centre's industrial and international partners to deliver excellent training in computational modelling of 'real world' systems required by industry and academia. The models you will develop will be implemented in robust and reusable software allowing the reliability of your results to be carefully assessed.

Welcome onto our programme! Please let us know if you have any questions.

Julie Staunton

Director

HetSys People Management Team



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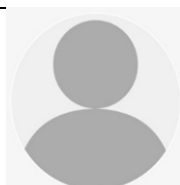
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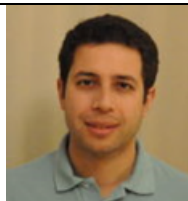
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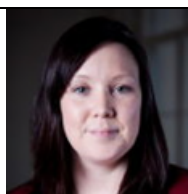
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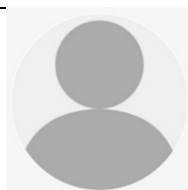
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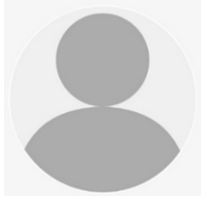
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Administration Team



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HetSys Training Programme

<https://warwick.ac.uk/fac/sci/hetsys/training>

HetSys' training programme is to enable students to become high-quality computational scientists who are comfortable working in interdisciplinary environments, have excellent communication skills, and are well prepared for a wide range of future careers in areas where there is demonstrable need.

The HetSys training programme will meet three key training needs:

- **Span disciplinary barriers.** The most challenging real-world heterogeneous systems are intrinsically multidisciplinary, requiring integration of a diverse range of modelling methods.
- **Incorporate uncertainty in modelling.** Training in uncertainty quantification will enable students not only to perform simulations, but also to quantitatively assess their reliability.
- **Promote robust Research Software Engineering (RSE).** Training in sustainable software development will enhance software usability and extend its lifetime.

Overview of Training Programme

CDT training will run **throughout the four year PhD programme** as illustrated overleaf, with all aspects designed to meet the three key training needs above, and to develop transferable skills. Students will be recruited directly onto projects and will have a supervisor from the start of their course, as well as a second supervisor in a related area and a cohort mentor for academic and pastoral advice. In projects with industry links there will often also be an industry co-supervisor.

During the first 18 months of the programme each student will study **4 core modules** (PX911, PX912, PX913 and PX914) and at least 2 optional modules, participate in a group software development project (PX915) supported by academics and RSEs, and carry out an independent research project in the area of their PhD project assessed through a written report and viva 12 months into the programme. Responsible Innovation (RI) activities will run throughout the 4 years.

The individual project also leads to a peer-to-peer activity in the second year (also part of PX915). These activities will contribute to the formal award of a postgraduate diploma (120 credits), which must be successfully completed 18 months into the programme. Each student will also have the opportunity to participate in the formal transferable skills course run by the University, which leads to a PG Certificate in Transferable Skills after 3 years.

In Years 2-4 the majority of a student's time will be spent conducting PhD research. There will be ample opportunities for peer-to-peer learning and knowledge exchange through cohort-wide activities.

Postgraduate Certificate in Transferable Skills in Science (PGCTSS)

All HetSys PhD students have the option to complete this Warwick-led certificate which aims to help you to be a successful doctoral researcher and to be even more successful in your post-doctoral career than you might have been otherwise. The certificate consists of six modules: normally you will complete two each year. Each year, one of these will concentrate on the skills that you should be building up during your routine work as a research student. The other will be based on an approximately three-day course with some follow-up activities. The full Certificate requires six modules (three modules will lead to a Postgraduate Award in Transferable Skills). More information can be found at <http://www2.warwick.ac.uk/fac/sci/transferable-skills/pgctss>. The SkillsForge platform should be used to record evidence of transferable skills: <https://skillsforge.warwick.ac.uk>

Training Plan

	Year 1	Year 2	Year 3	Year 4
Term 1	*PX911 Multiscale Modelling Methods & Applications I	**Optional module	PhD Research	PhD Research
	*PX912 Multiscale Modelling Methods & Applications II	**Optional module		
	*PX913 Research Computing/ Software Carpentry	Hands on training development; *PX915 Peer-to-peer Project Evaluation		
	(inc. RI training in energy efficiency)	PhD Research		
Peer-to-peer knowledge exchange in interdisciplinary working groups				
Vacation	PhD Research			
Term 2	Attend Industry Study Group co-creation event (Jan)			
	*PX914 Predictive Modelling and Uncertainty Quantification	Hands on training delivery	PhD Research	PhD Research
	**Optional module	PG Diploma		
Peer-to-peer knowledge exchange in interdisciplinary working groups				
Vacation	*PX915 Group project: software eng, supported by RSEs	PhD Research	PhD Research	PhD Research
Term 3	(inc. RI training in licensing & IP)			
	Individual project (12 weeks)	Peer-to-peer knowledge exchange in interdisciplinary working groups		
Summer	Industrial and international secondments (June-Sept)			
	Individual project viva	PhD Research	Thesis Plan	
	Attend PhD Project Study Group co-creation event (Sept)			
	Attend student conf	Attend student conf	Organise student conf	
				Thesis Submission and PhD Viva

Core module

Optional module

Research project

Cohort building

Responsible Innovation

Progression gateway

HetSys Core Modules

PX911: Multiscale modelling methods and applications I will provide an introduction to atomistic modelling techniques including DFT, classical force field methods and an appreciation of how they interact with other modelling frameworks. Students will learn how to design atomistic simulations of condensed matter or molecular systems, and how to identify simulation methodologies appropriate to bridging multiple length scales, balancing accuracy vs. cost. They will gain exposure to software packages supporting interoperability between methods, e.g. the Atomic Simulation Environment. Multiscale Modelling case studies by guest lecturers will show how problems involving heterogeneous systems are tackled at multiple length & time scales. **(15 credits)**

PX912: Multiscale modelling methods and applications II will provide a firm grounding in macroscopic and multiscale modelling techniques, with lectures on foundations of continuum mechanics, thermodynamics, fluid dynamics, solid mechanics, and recent developments in multiscale fluid, plasma and solid mechanics, again with an emphasis on applications and on the links between methods and across scales. Topics covered will range from the basics of continuum mechanics and thermodynamics concepts through to demonstrating the route from underlying models via algorithms to practical implementation in simulation packages. **(15 credits)**

PX913: Introduction to Scientific Software Development will comprise bespoke Software Carpentry training developed by our RSE group and will ensure students understand the core principles of programming and software development, gain experience with writing, debugging and reading code in high- and low-level languages, and learn to use common tools for data analysis and visualization. Lectures will be delivered by the Research Software Engineering group of the Scientific Computing Research Technology Platform, and will cover fundamental operation of a computer, use of version control, debugging tools, and approaches to group-based software development. Where necessary for individual projects, C or Fortran training will be provided, positioning students to follow further programming option modules, most notably PX425: High Performance Computing. **(15 credits)**

PX914: Predictive Modelling and Uncertainty Quantification will give an introduction to predictive modelling techniques including statistics, machine learning, data analytics and data mining, essential for solving problems in the interdisciplinary area of predictive modelling. Lectures will cover random processes, statistical learning, Bayesian inference, Monte Carlo methods, model selection, and supervised and unsupervised machine learning techniques. Through links to topics in PX911 and PX912, students will learn how to quantify uncertainty in a range of modelling approaches. Particular emphasis will be given to scalable approaches to UQ and propagation in multiscale models, description of random microstructures, defects in random media and information theoretic approaches to coarse graining. **(15 credits)**

PX915 Part I: Software engineering group project, supervised by a combination of academics and RSEs, will be undertaken collectively by the cohort, with students designing, specifying, optimising and implementing a small-scale simulation package to model heterogeneous systems. Examples include density functional theory, molecular dynamics, computational fluid dynamics and finite element analysis. Careful division of responsibilities and integration of work will be required. This will be valuable for students' future careers, as well as making it easier to distribute software developed in their PhD research. This 25 CAT module will include 2 seminars on intellectual property and software licensing with input from Warwick Ventures, who commercialise innovations produced from research carried out in the University.

Year 1 students will also complete a **12-week individual research project** which requires detailed field-specific knowledge and approaches the frontiers of research, with the innovative requirement to include explicit quantification of uncertainties and/or modern aspects of software design. In general, the project will be preparation for the main PhD work. The first year report is not for credit within the PG Diploma, which allows the work undertaken to be included in the PhD thesis, but the supervisory team must be satisfied with the progress during this time for progression to the PhD.

PX915 Part II: Peer-to-peer Project Evaluation (Year 2) will build on output of individual research projects: another cohort member will be assigned to evaluate the quality of a student's model error estimates and/or compliance with research software engineering principles, e.g. by running models with an ensemble of inputs or on a selection of architectures (another opportunity for PUE profiling). Software testers will be encouraged to discuss the process with the software authors, fostering dialogue across the cohort. **(5 credits)**

HetSys Optional Modules

Across Years 1 and 2, students must choose at optional modules totalling 30 or more credits from an approved set of MSc-level modules including 7 bespoke HetSys modules: these allow students to develop necessary theoretical background for their PhD projects, and gain hands-on experience with algorithms and software packages in their field.

List A

Students will be required to study 15 or more credits from optional modules:

- PX425 High Performance Computing in Physics (7.5 credits) AVAILABLE IN 2021-22
- PX917 Computational Plasma Physics (15 credits) AVAILABLE IN 2021-22
- PX918 Electronic Structure Theory for Experiment and Models (15 credits)
- PX919 Quantum Chemistry (7.5 credits)
- PX920 Micromechanics of Materials (7.5 credits) AVAILABLE IN 2021-22
- PX921 Micro & Nano Flows across scales (7.5 credits) AVAILABLE IN 2021-22
- PX923 Biomolecular Simulation (7.5 credits)

List B

HetSys students will also have access to a range of other relevant postgraduate modules including:

- MA4K0 Introduction to Uncertainty Quantification (15 credits)
- MA933 Stochastic Modelling and Random Processes (15 credits)
- MA934 Numerical Methods and Algorithms (15 credits)
- MA999 Topics in Mathematical Modelling (15 credits)
- MA930 Data Analysis and Machine Learning (15 credits)
- IB9FF Simulation Optimisation (15 credits)
- CS910 Foundations of Data Analytics (15 credits)
- CY905 Computational PDEs (15 credits)
- MA4J1 Continuum Mechanics (15 credits)
- MA913 Scientific Computing (15 credits)

List B modules are pre-approved; other relevant modules from across Warwick may be suitable, subject to approval from your supervisor and the HetSys Director of Postgraduate Studies.

For module information, please refer to the Module Catalogue: <https://courses.warwick.ac.uk/>

Progression Rules

- Pass the Postgraduate Diploma in the Modelling of Heterogenous Systems (HetSys PGDip) (F345)
 - The HetSys PGDip comprises of 120 credits, consisting of:
 - Five core modules (90 credits)
 - Optional modules (30 credits) to include at least 15 credits from List A above
 - A PG Diploma requires at least 90 credits to be passed at [FHEQ Level 7](#). Pass level for Level 7 modules is 50.
- Pass the first year progress viva for the Individual Project

Course duration:

Full Time: 4 years (PhD); 1.5 years (PGDip)

Part Time: 6-8 years (PhD); 3 years (PGDip)

For those students who choose at the end of the first year not to progress from the PG Diploma to the PhD, there will be the option of transferring to a Master's.

Towards the end of the first year, after completion the research associated with their Individual Project, students and the management team will be required to make a choice whether they are continuing on to the PhD, in which case they stay enrolled for the PGDip, or whether they wish to switch to the MSc. Those students staying on the

PGDip, will complete further taught courses and cohort activities while their PhD research is ongoing, culminating in the award of the PGDip after 18 months.

In the unlikely event that by the end of the first year, any students have not been able to pass enough of the taught element of the PGDip, and this is not remedied by retakes/resubmissions, or for any other reason do not wish to proceed from the PGDip to either the PhD or the MSc, then they can instead receive a PG Certificate if they have already completed 60 credits of HetSys modules.

The Individual Project in the first year is not directly examined for credit for students on the PG Diploma, as it forms part of the PhD, but satisfactory progress in the research (as decided by the supervisory team) will be a requirement for progression to the PhD. For those students switching to the MSc, they complete a significantly expanded write-up of the Individual Project in the form of a Master's dissertation (PX916), and submit that for full examination.

Where not overridden by the details specified in this handbook the procedures specified in Research Degrees (Regulation 38) apply.

<https://warwick.ac.uk/services/gov/calendar/section2/regulations/reg38pgr>

Timetable

Your timetable is here: <https://warwick.ac.uk/fac/sci/hetsys/studentinformation/timetable/>

Module PX915 runs from Week 20 to Week 26 (over the Easter Vacation period).

Most modules will have a viva assessment component. Vivas in year 1 will be held at the end of Term 1 and Term 2 and in Term 3.

Supervision and Monitoring of Research Students

Policies and Guidance:

https://warwick.ac.uk/services/dc/policies_guidance/

https://warwick.ac.uk/services/dc/policies_guidance/supervisionpgr

Responsibilities of Research Supervisors

1. Supervisors are expected to ensure they are available for regular weekly meetings with their students, bringing in secondary supervisors and other project partners as appropriate to the project.
2. Supervisors are responsible for maintaining regular contact with project partners (for example monthly) and ensuring they are aware of CDT activities.
3. Supervisors are expected to support, encourage and enable their students to participate fully in the life of the CDT, including cohort training, attendance of student conferences and outreach activities.
4. Supervisors should also ensure students are aware of all the expectations of the CDT in terms of contributions to organisation and attendance of events, attendance of seminars, etc.
5. During internship and secondment activities, supervisors should remain in regular contact with their students, for example by Teams or other means and liaise with project partners.

Responsibilities of Industry Partners

1. Maintain regular contact with HetSys students (for example monthly)
2. Respond in a timely manner to requests to present/publish sponsored work and keep the students/supervisors informed of progress.
3. Contract review meetings to be held at a minimum quarterly.
4. Support other HetSys activities where appropriate

PhD Meetings and Reports

The expectation is that each student will meet and discuss progress with their primary supervisor at least once a week. The meetings will check:

- that the progress seen is appropriate to the stage of the research programme

- that the research methods are appropriate and practical
- whether there are any theoretical and practical difficulties hindering the project

Annual meetings with the Director and twice-yearly meetings with the second supervisor will check:

- if the level of contact with supervisor(s) is adequate
- that a realistic plan is in place for completion of the research within the expected time frame.

Research Data Management

Supervisors are responsible for ensuring compliance with [EPSRC](#) and [University of Warwick](#) research data management policies, as set out at the webpages linked above. Training in research data management will be provided to HetSys staff and students by the Warwick research data team.

Key things you need to consider are:

- **Data Management Plan (DMP):** A Data Management Template has been setup for HetSys using [DMPonline](#), a web-based tool for creating data management plans which you can copy and adapt for your individual PhD projects.
- **Publication of your data:** Expectations on storage and preservation can in general be met by depositing the data that underpins your publication in a suitable subject, national or journal data repository, or otherwise in the University's [WRAP](#) system. If you are depositing data outside of the University contact researchdata@warwick.ac.uk.
- **Acknowledgement of data in publications:** Ensure published research has a statement describing how to access supporting data. You need to include a DOI or another persistent identifier in your publication that points to the data or a metadata record explaining how data can be accessed or why it cannot be shared. This can be done via an external data repository or [WRAP](#).

Research Council (UKRI)-funded students

All students funded by a Research Council must follow the terms and conditions set by UKRI:

<https://www.ukri.org/funding/information-for-award-holders/grant-terms-and-conditions/>

Please refer to the Doctoral College website for further information for UKRI funded students.

https://warwick.ac.uk/services/dc/schols_fund/rcukfundedstudents/

PhD Reporting: researchfish®

Throughout your research, you will be expected to update your records on researchfish®, in order that research funders and organisations are able to track the outcomes of your research.

About researchfish® <https://www.ukri.org/funding/information-for-award-holders/research-outcomes1/about-researchfish/>

www.researchfish.net

Attendance

Students are expected to attend all scheduled sessions of the training programme. This includes lectures, workshops and examinations. Where Lecture Capture has been enabled, this is intended as an aide to revision and to mitigate unavoidable absences e.g. due to illness, rather than as a replacement for attendance in person. Students should also meet with their supervisors regularly, typically at least weekly. The CDT operates a set of pre-defined Monitoring Points spread throughout the year where we are required to record your attendance. This is of particular importance to Tier 4 visa holders as this information is shared with UK government agencies.

Annual Leave

It is expected that students will take periods of leave from their studies in order to maintain an appropriate work-life balance. The University's PGR annual leave policy is here:

<https://warwick.ac.uk/services/dc/support/wellbeing/annualleave/>

Please note:

- If the student wishes to appeal a decision regarding annual leave, advice should be sought from the Director of Graduate Studies.
- The student's programme includes taught modules and the student is required to attend all timetabled activities, including but not limited to lectures, seminars, workshops, assessments and examinations. Annual leave will not normally be granted during weeks with timetabled activities.
- Students are advised not to book flights or any holidays for which deposits or payment have to be made before the annual leave is approved.
- Where students add a period of annual leave to an overseas visit e.g. conference or project meeting, they will be responsible for meeting all the additional costs of travel, accommodation and subsistence incurred during their leave period.

Statutory and customary leave information

Bank holidays and University closure days:

<https://warwick.ac.uk/services/humanresources/internal/policies/annualleave>

Leave of Absence, Temporary Withdrawal (TWD) and Holidays

For information on Leave of absence and Temporary withdrawal, please see the information on the Student Records Management website: <https://warwick.ac.uk/services/academicoffice/studentrecords/twd>

Assessment

Please check moodle for assessments for individual modules.

Academic Placements

In years 2, 3 or 4 of the PhD programme, a student will have the opportunity to undertake a summer placement at one HetSys's project partners, which include universities, research centres and industry. Funding is included in a student's RTSG (research training support grant) budget.

Funding and Fees

The stipend for 2021-22 is £15,609. This is subject to the standard EPSRC terms and conditions:

<https://www.ukri.org/skills/funding-for-research-training/>

The fee level for the PhD for 2021-22 is £4,500 (Home/EU students).

Stipend payments

All payments of stipends to Postgraduate students will be paid by BACS to your nominated UK bank account.

Please see the Student Finance website for further information:

<https://warwick.ac.uk/services/academicoffice/finance/receivingpayments/paymentstostudents/>

PhD Budget Management

You are allocated your own consumables and travel budgets. These are managed by your PhD supervisor.

Expenses and Travel Guidelines

Expenses claims for travel and subsistence may be reimbursed through the Physics Department:

<https://warwick.ac.uk/fac/sci/physics/intranet/administrative/finance/expclaims>

Please read:

Financial Procedure 16 – Travel, Subsistence, Gifts and Hospitality

<https://www2.warwick.ac.uk/services/finance/resources/regulations/fp16/>

Physics Administrative Support

Particularly the Travel & Conferences items <https://www2.warwick.ac.uk/fac/sci/physics/intranet/administrative/>

You are expected to act prudently and responsibly, and seek value for money. Expenses have to stand up to public scrutiny.

It is expected that PhD students will attend one international conference over the three-year period.

Communication

How to contact supervisors and HetSys' management team

The best way to contact your supervisor is typically by email to their official **@warwick.ac.uk** address.

The HetSys management team can be contacted as follows:

General enquiries Helen Knight and Sarah Catlin	hetsys@warwick.ac.uk
Director Julie Staunton (Physics)	J.B.Staunton@warwick.ac.uk
Co-director James Kermode (Engineering)	J.R.Kermode@warwick.ac.uk
Director of Postgraduate Studies Nicholas Hine (Physics)	N.D.M.Hine@warwick.ac.uk

Email

We will communicate with you via your University of Warwick email account. Please check your email at least once per day.

Emails from staff will always be sent from a University of Warwick account. Messages from non-Warwick accounts may be phishing or spam.

https://warwick.ac.uk/services/its/servicessupport/email/spam_phishing

Post

The mailing address is:

HetSys CDT
Physics Stores, Department of Physics
University of Warwick
Coventry, CV4 7AL

You can collect your post from the CDT Admin Office (MAS2.07).

Please note: Physics Stores does not accept delivery of personal parcels. There are Amazon Lockers at several sites on campus: <https://warwick.ac.uk/services/retail/shops/amazon>

The Student Post Room is available for students who live on campus:

<https://warwick.ac.uk/services/estates/post/students>

Cancelled sessions

If a lecture, seminar or workshop needs to be cancelled or rearranged, we will notify you via email.

Contact details

Please keep your contact details up to date: <http://warwick.ac.uk/evasion>

Teaching locations

Lectures and workshops will be in the Materials and Analytical Science Building (MAS), level 2.

Interactive campus map: <https://warwick.ac.uk/about/visiting/maps/interactive/>

Laptops

You will be issued a laptop, which remains the property of the University. Please do not dispose of the laptop.

Please read and accept the Laptop Terms and Conditions:

<https://warwick.ac.uk/fac/sci/hetsys/studentinformation/laptopterms/>

For hardware faults or repairs, please contact HetSys@warwick.ac.uk, quoting the asset number/s which you will find on stickers on the base of the laptop.

Teaching, Assessment and Examinations

The majority of the taught course is delivered through lectures and workshops, with the assessment being through classwork, workshops, class-based tests and viva examinations. Written examinations will not feature except in the case of external options.

Assignments

Assignments will be distributed and submitted via Moodle or in some cases using the Jupyter Notebook nbgrader platform. Guidance on the usage of these tools will be given within lecture/workshops.

Assessment submission deadlines will be clearly communicated by module leaders and lecturers, as will normal criteria for extensions. In the case of in-class workshop-based assignments these may be at the end of the relevant teaching session, but will more often be after a sufficient period to enable writing-up answers to ancillary questions and further reading. Submission will in general be electronic: either via Moodle or via the interface presented through nbgrader or other work.

Assignment submission deadlines will typically be in the week following the workshop associated with a given assignment. We will aim for feedback to be returned within two weeks, and in all cases within the University's 20 working day deadline.

The standard University of Warwick penalties for late submission will in general apply unless otherwise stated by the module leader. These are covered by Regulation 36 and are explained here:

<https://warwick.ac.uk/services/aro/dar/quality/categories/examinations/faqs/penalties>

In the case of assessed work where a strongly disproportionate advantage could be obtained by delaying submission, we reserve the right to disallow late submission except in very clearly unavoidable circumstances.

Feedback will be available on all assessed work: in general, this will be returned electronically via the same route(s) as submission (i.e. via Moodle, nbgrader or similar interfaces). We will endeavour to stick to the "2 week" rule of grades and feedback returned within two weeks of the deadline for work submitted on time. Module leaders will communicate where this is not going to be possible.

Where possible, mark schemes of assessed work will be made clear alongside feedback or within workshop exercise materials.

Advice on plagiarism avoidance

We welcome collaborative work but assignment submissions must be individual. See discussion of *Cheating*.

Cheating

At the core of the HetSys ethos is the idea of collaborative teaching, learning and research. We encourage students across all modules to discuss their ideas and, within reason, collaborate and share their approaches to problems during workshops and assignments.

However, many modules involve the formal submission of an assessed piece of code. We expect submissions to be the genuine work of the individual and that text or code should not be shared between students. We define a clear red line in relation to electronic transmission of code or text: i.e. no cut-and-paste from the work of any other students, past or present.

Breaches of this clear red line will be treated very seriously. Students should be aware that any such activity would be in breach of [Regulation 11](#) and could also constitute a breach of University [Regulation 23](#) governing Student Disciplinary Offences.

Many modules also involve viva examinations. These are an important part of the learning and assessment process and it is crucial that they are fair between all candidates in the cohort. It is therefore crucial that students do not discuss their vivas with their peers until all the vivas for a given module have been completed. We expect all candidates to abide by this and neither share nor seek information on the content of viva questions until after the completion of the process. Breaches of this clear red line will be treated seriously.

Students should be aware that any such activities as described above would be in breach of Regulation 11 and could also constitute a breach of University Regulation 23 governing Student Disciplinary Offences.

Results

The HetSys Board of Examiners will convene after the end of Term 3 of each academic year to award the PG Dip as a formal progression requirement to the PhD and will certify satisfactory completion of the taught components of the course. In years with students registered for the MSc, the board will also meet at the end of the academic year; when this is not the case, the management committee of the CDT will meet at the end of the academic year to examine the progress of continuing PG Dip students to ensure they are on track to complete their course during year 2. After the Board of Examiners or MC meeting (as appropriate), results will be released on the HetSys student intranet. You will need to be logged in and you will only be able to view your own results.

The progression requirements for the HetSys taught course are stipulated in the section "Progression Rules" above. Where these are not met, students will have an opportunity to remedy failure in all HetSys modules: as this is expected to be an unusual occurrence the board of examiners will make recommendations as to what part(s) of the course must be repeated depending on the extent to which the student has fallen short of a passing grade. Depending on the module, this may involve a resubmission of assessed work with new additions, or it may involve re-sitting the viva, normally within 4 weeks of the exam board.

If progression requirements from the PG Dip to the PhD are still not met after these resits, the board will recommend the student either withdraw or transfer to the MSc, which will involve converting the work associated with the Individual Project into an MSc dissertation and arranging a full viva examination of this dissertation.

For information regarding the written examinations of non-HetSys modules that students may be taking as option modules, please see the University Regulations on Examinations:

<https://warwick.ac.uk/services/gov/calendar/section2/regulations/examregs/>

Mitigating circumstances

Situations that the student could not have predicted and had no control over (e.g. serious illness, death of someone close, being the victim of crime, family difficulties and financial hardship); situations with negative impact on the student's ability to undertake assessments/examinations which are independently evidenced in a timely fashion; (e.g. doctor's note during illness showing duration and level of negative impact); situations that are acute or short term, the timing of which are relevant to the impact on study (normally within three weeks of the relevant assessment event deadline). Mitigating Circumstances must be submitted to HetSys as soon as possible, through Tabula <https://tabula.warwick.ac.uk/>

NOTE: Long term chronic conditions (normally greater than a term in duration and that are likely to continue) and disabilities are dealt with under the reasonable adjustments (RA's) policy which can be found at:

<https://warwick.ac.uk/services/wss/students/disability/howwecanhelp/adjustments/>

Further information is here:

https://warwick.ac.uk/services/aro/dar/quality/categories/examinations/policies/u_mitigatingcircumstances

Deadline for applying for Mitigating Circumstances

For extension requests, as soon as possible and definitely before the submission deadline.

For all other mitigating circumstances that might be relevant to a Board of Examiners, the deadline for claims to be considered by the exam board is **Friday 19 February 2021 (2020-21 term 2, week 16)**.

Mitigating Circumstances Panel

The Mitigating Circumstances Panel in HetSys is made up of the Director, Co-Director, Director of Postgraduate Studies, Cohort Mentor, plus an additional academic member of staff from the Faculty but external to the CDT and the Secretary to the Mitigating Circumstances Panel. (Quorum: 3 members).

Students are encouraged to present any mitigation well in advance of the relevant assessment periods. In the first instance, this can be via discussion with supervisor or another member of the CDT management team. Meetings of the Mitigating Circumstances Panel will take place as required throughout the year.

Reasonable Adjustments

The Equality Act 2010 (<https://www.gov.uk/definition-of-disability-under-equality-act-2010>) requires the University to make reasonable adjustments where a candidate who is disabled (within the meaning of the Act), would be at a SUBSTANTIAL DISADVANTAGE in comparison to someone who is not disabled.

'Substantial' is defined as 'more than minor or trivial' and a disability (<https://www.gov.uk/definition-of-disability-under-equality-act-2010>) is defined as 'a physical or mental impairment that has a substantial and long-term negative effect on the ability to carry out normal day-to-day activities'.

Students who have long term chronic conditions or disabilities and who believe they are entitled to reasonable adjustments should in the first instance contact Wellbeing Support Services (<https://warwick.ac.uk/services/wss>) and request an appointment to discuss their support requirements.

Further information:

https://warwick.ac.uk/services/aro/dar/quality/categories/examinations/policies/u_mitigatingcircumstances

Flexible Study

The CDT's integrated four-year programme can accommodate flexible study arrangements such as part-time study. The CDT will support supervisors to work with students in setting up flexible study arrangements where needed. Secondments to our industrial and international partners will also be organized as flexibly as possible. Students will be assigned a cohort mentor who will advise on study and further career plans.

Feedback and Complaints

All teaching staff of the CDT welcome feedback on the training programme: we encourage students to directly engage with the lecturers in the first instance with any concerns or suggestions. Feedback forms will in most cases be made available on Moodle. Where students are concerned their feedback is not being treated appropriately, they are encouraged to talk to their cohort mentor, supervisor or any other CDT management team member. Informal feedback can also be given via the HetSys MS Teams channel.

A more formal route to raise concerns is to bring them to the attention of the Staff Student Liaison Committee (see below).

In cases where students feel the student/supervisor relationship is not functioning effectively, they are encouraged to discuss this in confidence with the Cohort Mentor or the CDT Director. In many cases resolution can be achieved

by informal mediation, though occasionally further action may be necessary, for example changes to the supervisory team.

If this still does not bring about a satisfactory resolution, then further escalation is possible under the University Student Feedback and Complaints Resolution Pathway, which is designed as an opportunity for students to provide feedback on all aspects of their experience. The Student Feedback and Complaints Resolution Pathway sets out a clear procedure to deal with feedback and complaints and offers information about the availability of mediation in resolving disputes: <https://warwick.ac.uk/services/feedbackcomplaints/students/complaints/>

Questionnaires and Student Feedback

See *Feedback and Complaints* above for further details on module feedback. There are also University-wide surveys of the student learning experience at Warwick. For HetSys students the relevant survey is the Postgraduate Research Experience Survey (PRES; biennial). Students are encouraged to complete this survey to ensure that the results are representative of the wealth of student views.

HetSys students will be involved in the interpretation of feedback and the formulation of both action and communication plans relevant to issues raised through any of the above mentioned student feedback mechanisms through their engagement in the Staff-Student Liaison Committee (SSLC) and participating in the HetSys Steering Board.

Academic Appeals and Complaints

Matters relating to academic judgement, including marks awarded for assignments, are not classed as a complaint. Academic judgement cannot, normally, be challenged, but academic staff will in general be happy to explain the reasoning behind the mark that has been awarded.

For procedural matters, the University operates a three-stage Student Complaints Resolution Pathway. In the first instance, please raise any concerns as soon as possible, initially within HetSys with a relevant member of staff (e.g. module leader or member of the HetSys management team, contact details above). Should a complaint not be satisfactorily resolved informally, students will be able to submit a formal complaint via the University Student Complaints Resolution Team in the Academic Office, but will be advised to seek further support prior to doing so. The procedure is clear and straightforward and is set out at <https://warwick.ac.uk/services/feedbackcomplaints/students/complaints>

Students may also wish to contact the Student Union for support. They are independent of the University and can assist with making a complaint. <https://www.warwicksu.com/help-support>

Department of Physics A-Z

The **Physics A-Z** has a wealth of information for both students and staff on all aspects of administration, from room bookings to conference travel.

Physics A-Z: <https://warwick.ac.uk/fac/sci/physics/intranet/>

<https://warwick.ac.uk/fac/sci/physics/>

Computing and Printing

You are expected to back up your work. Examples of how to setup a regular scheduled backup of your laptop to your SC RTP home directory will be provided.

There is no charge for printing. Please use this service responsibly.

Student-Staff Liaison Committee (SSLC)

SSLCs are committees made up of elected student representatives, also known as Course Reps, and members of staff, also known as Academic Convenors. They are student-led and provide a forum for students and staff to discuss ideas and solve problems connected with teaching, learning and student support. SSLCs allow students to have a say on their course, their department, and their resources and is a great way to input into your university. They also provide an opportunity for the department to consult with students and receive feedback on new proposals.

The HetSys SSLC will consist of 3 student representatives and at least 3 members of the Teaching Subcommittee of the management Team, and will meet formally 4 times each year. This committee will report to the HetSys Steering Panel.

Nominations for the HetSys SSLC will open in October.

All SSLC representatives should attend one of the SSLC training sessions.

Links to departmental SSLC reps, agendas and minutes can be found at: www.warwicksu.com/sslc

Health and Safety

<https://warwick.ac.uk/fac/sci/hetsys/studentinformation/healthandsafety/>

You must complete the following training:

[Guide to setting up your computer workstation](#) and [self assessment](#)

Moodle videos:

[Working Safely During COVID-19](#)

[University of Warwick - Staff and Student General Health and Safety Induction](#)

[University of Warwick - Fire Safety Awareness](#)

Teaching and Demonstrating

Students should not take on commitments which conflict with scheduled sessions. We recommend a limit of six hours teaching or demonstrating per week, including preparation. This should be discussed with the relevant teaching supervisor(s). We strongly recommend that students not take on teaching responsibilities in year 1 that exceed 2 hours per week.

University Information

University Dates

Term dates: <http://warwick.ac.uk/termdates>

University Calendar: <http://warwick.ac.uk/calendar>

University Regulations

<https://warwick.ac.uk/services/gov/calendar/section2/regulations/>

Examination Regulations (Regulation 10):

<https://warwick.ac.uk/services/gov/calendar/section2/regulations/examregs>

Procedure to be adopted in the Event of Suspected Cheating in a University Test (including plagiarism) (Regulation 11): <http://warwick.ac.uk/regulation11>

Student Disciplinary Offences (Regulation 23):

<https://warwick.ac.uk/services/gov/calendar/section2/regulations/disciplinary/>

Regulations governing the use of University Computing Facilities (Regulation 31):

<http://warwick.ac.uk/regulation31>

Regulation Governing Student Registration, Attendance and Progress (Regulation 36):

<http://warwick.ac.uk/regulation36>

Regulations Governing Taught Postgraduate Courses (Regulation 37): <http://warwick.ac.uk/regulation37>

Regulations Governing Research Degrees (Regulation 38): <http://warwick.ac.uk/regulation38>

University Policies

University's Equal Opportunities Statement:

https://warwick.ac.uk/services/equalops/equal_opportunities_statement

Dignity at Warwick: <https://warwick.ac.uk/services/equalops/dignityatwarwick>

Policy on Recording of Lectures by Students: <https://warwick.ac.uk/services/aro/dar/quality/recordinglectures/>

Smoking Policy: <https://warwick.ac.uk/services/healthsafetywellbeing/guidance/smokingpolicy>

Assessment Strategy and Good Practice:

<https://warwick.ac.uk/services/aro/dar/quality/categories/examinations/assessmentstrat>

University Policy on the Timing of the Provision of Feedback to Students on Assessed Work:

<https://warwick.ac.uk/services/aro/dar/quality/categories/examinations/assessmentstrat/assessment/timeliness>

Warwick Student Community Statement: <https://warwick.ac.uk/services/aro/dar/quality/categories/wscs>

Supporting and Facilitating Student Learning: Study Hours:

<https://warwick.ac.uk/services/aro/dar/quality/categories/studyhours>

Moderation Guidance: <https://warwick.ac.uk/services/aro/dar/quality/categories/examinations/moderation>

Guidelines for Postgraduate Research Students

Guidelines on the Supervision and Monitoring of Research Degree Students:

<https://warwick.ac.uk/services/dc/support/pgr-guidance/supervisionpgr>

Guide to examinations for higher degrees by research:

<https://warwick.ac.uk/services/dc/support/pgr-guidance/gtehdr>

Additional Academic Support

Students' first point of contact for additional academic support should be their primary supervisor. Further support is also available from your second supervisor and cohort mentor or from the HetSys management team (contact details above).

Student Opportunity: Careers

Student Opportunity: Careers offers advice, support and resources for students and graduates.

<http://warwick.ac.uk/careers>

English Language

In-sessional English language classes and online self-study materials for developing English skills are offered in the Centre for Applied Linguistics. <http://warwick.ac.uk/al/study/learn-english>

Equality, Diversity and Inclusion

We're proud of the strengths and values our diversity represents.

We strive to achieve fair and equal representation for all, allowing everyone in our community to contribute and reach their full potential.

University of Warwick Equality Statement Vice Chancellor, Stuart Croft

"The promotion of Equality, Diversity & Inclusion concerns all of us and is the responsibility of all members of our community. It is expected that we will all contribute to ensuring that the University of Warwick continues to be a safe, welcoming and productive environment, where there is equality of opportunity, fostered in an environment of mutual respect and dignity.

The concept of diversity encompasses acceptance and respect. It means understanding that each individual is unique, and recognising our individual differences. We understand that simply having diversity in our work force and student body is not enough; we must create an inclusive environment where all people can contribute and reach their full potential.

Inclusion is engaging the uniqueness and talents, beliefs, backgrounds, capabilities and ways of working of all individuals, joined in a common endeavour, to create a culture of belonging, in which people feel valued and respected."

<https://warwick.ac.uk/services/equalops/>

IT Services

IT Services provide access to information technology services and support.

The Drop In Desk on the first floor of the Library is open 9am to 5:30pm, Monday to Friday, excluding bank holidays.

Phone: 024 765 73737 (8:30am to 5:30pm, Monday to Friday, excluding bank holidays)

Email: helpdesk@warwick.ac.uk

<https://warwick.ac.uk/services/its>

Library

Learning at Warwick is supported by an excellent library as well as a wide variety of study spaces, such as the Learning Grids on campus and in Leamington Spa.

<https://warwick.ac.uk/services/library>

Support for your subject: <http://warwick.ac.uk/library/subjects>

The Postgraduate Hub (PG Hub)

The PG Hub is the centre of postgraduate life at Warwick. We are a dedicated space for postgrads, enabling them to access support, work in a collaborative environment and socialise with peers. There are bookable rooms for group work with presentation facilities, as well as a relaxation room for chill out time. The Hub is host to regular skills workshops, as well as wellbeing and cultural events.

www.warwick.ac.uk/services/library/pghub

Student Services

Student Services is located on the ground floor of Senate House. The team are the face of Warwick Accommodation and Student Finance as well as other Academic-related enquiries.

<https://warwick.ac.uk/services/reception>

Certificates and Transcripts

Transcripts of academic record for postgraduate taught students are produced by the Examinations Office. The University does not produce transcripts for postgraduate research students, but the Doctoral College can offer a Confirmation of Award letter.

Information is available at: <http://www.warwick.ac.uk/ao/examinations/transcripts>

Certificate of Student Status

A certificate of status letter can be requested to prove your current enrolment status at the University of Warwick and is often required in order to open bank accounts, for police registration, for council tax exemption and for some immigration purposes, as well as numerous other reasons.

In most cases, you will be able to request a digital Certificate of Status via [Student Records Online](#).

<https://warwick.ac.uk/services/academicoffice/studentrecords/srforms/statusletter>

Student Careers & Skills

The Student Careers & Skills team offers a wide range of online resources, workshops, 1:1 information, advice and guidance, employer presentations, careers fairs, and a student helpdesk accessible in person, by email and phone.

<https://warwick.ac.uk/services/careers>

Support Services for Students

Support services available to students through the University and the Students' Union comprise the following:

[Student Support](#)

[University Dean of Students](#)

[Residential Life Team](#)

[Office for Global Engagement](#)

[Wellbeing Support Services](#)

[Disability Services](#)

[University Health Centre](#)

[Chaplaincy](#)

[Students' Union Advice Centre](#)

[Student Funding](#)

[Security Services](#)

Wellbeing Support Services

Wellbeing Support Services (<http://warwick.ac.uk/supportservices>) offer a comprehensive support structure available to help with all kinds of different problems, including personal, physical and mental health; financial; problems connected with the law and University regulations; problems involving the provision of facilities for students with disabilities; or harassment of any sort. Students may consult the services of their own accord, or may be referred to them by personal tutors/supervisors. There may be more than one option available to students in difficult situations.

Disability Services

Disability Services are part of Wellbeing Support Services at the University of Warwick. Existing students and applicants are encouraged to declare any disability or learning difference and contact Disability Services in advance to discuss their support requirements, to enable us to make reasonable adjustments for the duration of their studies.

The University of Warwick and Wellbeing Support Services as a whole are committed to equality, diversity and to promoting an inclusive teaching and learning environment for all.

<https://warwick.ac.uk/services/disability>

Students' Union

The SU provides a wide range of services to the student community at Warwick, including hundreds of student-run Societies and Sports Clubs, academic representation via a network of Course Reps, and independent advice and welfare information provided by the SU's Advice Centre.

<https://www.warwicksu.com/>

Students' Union Advice Centre

The Students' Union Advice Centre (<https://www.warwicksu.com/advice>) is an independent Warwick Students' Union-run service for all students. It offers free, confidential, non-judgemental advice and support on a whole range of issues.

Students can contact the Advice Centre if they have academic problems and difficulties with, for example, exams; change of course; academic appeals and complaints; have a housing problem with their accommodation, on or off campus; have immigration problems such as entry clearance, family members and working in the UK; have money or legal difficulties; or are simply not sure who to talk to or where to get help.

The Advice Centre is on the second floor of SU HQ. It will see students usually by appointment or can be reached by telephone on 024 765 72824 or email: advice@warwicksu.com

University Children's Services

Children of Warwick staff and students are eligible to attend the University Nursery: <http://warwick.ac.uk/nursery>

There are also holiday schemes and summer schemes: <http://warwick.ac.uk/services/childrenservices>

Physics Coffee Club

Coffee Club is held in the Physics Common Room (P5.64), Monday to Friday from 10:30-12:00. Tea, coffee and snacks are available for 30p each, except on Fridays when drinks and biscuits are free. All Physics and HetSys staff and students are welcome!

CSC Coffee & Cookies

The Centre for Scientific Computing *Coffee & Cookies* is held in the Physical Sciences Common Room on Fridays from 14:00-15:00. You are welcome attend!

<https://warwick.ac.uk/fac/sci/csc>

Enrich Your University Experience

[Warwick Arts Centre](#)

[Warwick Sport](#)

[Centre for Lifelong Learning](#)

[The Language Centre](#)

[Warwick Volunteers](#)

[Lord Rootes Memorial Fund](#)

[Chaplaincy](#)

[Music Centre](#)

[Warwick International Higher Education Academy \(WIHEA\)](#)

Disclaimer

In all situations, the Regulations as set out by the University in the Calendar, course regulations and examination conventions have ultimate authority.

Version

August 2021