Course Proposal Form

Please see Page 2 for instructions on which parts of this form to complete, whom to consult with to avoid unnecessary effort, and where to send the completed form.

Proposer(s): Benjamin Bach **Date: 11/02/2019**

Cover page: Basic permanent course information

Unless otherwise noted, items in this section are entered into EUCLID and **cannot** be changed without creating an entirely new course.

Course Name	Data Visualisation
Course Acronym *(used by the School only, e.g., for the Sortable Course List)*	DataVis / DATAVIS
Course Level If the course is **only** available to MSc students, then it must be classed as Postgraduate. All other courses, regardless of level, are Undergraduate.	**X Undergraduate** **X Postgraduate**
Normal Year Taken	__UG1 __UG2 __UG3 __UG4 __UG5 **X MSc**
Also available in years *[This can be changed later if need be.]*	__UG1 __UG2 __UG3 **X UG4** **X UG5** **X MSc**
SCQF Credit Level Level 8 should normally be used for pre-honours courses. Level 10 should normally be used for optional UG3 courses (so UG4 students may also take them) and for courses aimed mainly at UG4 students. Level 11 should be used for courses aimed mainly at MSc students, whether or not UG4 students can also take them.	__7 __8 __9 __10 **X 11**
SCQF Credit Points	**X 10** __20 __40 __60 __80 __Other:
Delivery Location	**X Campus** __On-line Distance Learning
Course Type	**X Standard (default)** __Dissertation __Online Distance Learning __Other (specify: Placement, Student Led Individually Created Course, Year Abroad)
Marking Scheme By default, courses use a numerical marking scheme. If you wish to use a grade-only marking scheme, your course proposal below should justify this.	**X Standard (numerical)** __Letter grade only

Guidance for remaining sections:

For an initial course proposal, please complete the **cover page and Section 1 (Case for Support)**, which asks you to describe the need for this course and to provide an overview of the course design, including the learning outcomes. **Please discuss your plans as early as possible with the head of Curriculum Review to avoid unnecessary effort.**

Send the form with these sections completed to the BoS Academic Secretary and head of Curriculum Review (listed on the BoS page) to obtain their comments before filling out the remainder of the form.

If a full proposal is invited, please complete the remaining sections and send to **iss-bos@inf.ed.ac.uk**.

2. Student-facing course description and additional feedback and assessment information.
This section provides most of the information students see in the DRPS entry for this course, as well as related details for BoS consideration.

3. Further information for BoS consideration: sample materials.

4. Additional Course Details required for DRPS. *[Administrative information such as delivery timing and prerequisites.]*

5. Placement in degree programme tables. *[Required for all level 9-11 courses; used to determine where the course will be added to existing degree programme tables.]*

6. Comments from colleagues. *[All course proposal should be sent to relevant colleagues in the area as well as to the appropriate year organizer and BoS Academic Secretary for comment in good time before the BoS meeting. Use this section to indicate what feedback has been solicited and received.]*

Colour coding and item-by-item guidance:

Guidance is provided in italics for each item. Please also refer to the guidance for new course proposals at http://www.inf.ed.ac.uk/student-services/committees/board-of-studies/course-proposal-guidelines. Examples of previous course proposal submissions are available on the past meetings page http://web.inf.ed.ac.uk/infweb/admin/committees/bos/meetings-directory but note that the proposal form was updated in Jan 2019.

Sections in gold are for student view and are required before a course can be entered into DRPS. You must complete these sections even if your course has already been approved based on other documentation.
Sections in orange are for School use but are still required for all courses (even those that have already been approved based on other documentation).
Section in gray are for consideration by the Board of Studies. They are normally required for all new course proposals but may be omitted in some circumstances (e.g., for invited course proposals) if you obtain permission in advance.

1. Case for support

This section is for consideration by the Board of Studies. The final two boxes (Learning Outcomes, Graduate Attributes) will also go into the student-facing course description.

Overall contribution to teaching portfolio and relation to existing curriculum

Please explain (a) what motivates the course proposal (e.g. a previous course having become outdated/inappropriate, an emergent or maturing research area or new research activity in the School, offerings of our competitors) and (b) how it relates to existing courses and degree programmes (including any prerequisite courses). Every new course should make an important contribution to the delivery of our Degree Programmes.

A design-focused data visualization course is a novum at the university and will attract students from within the School of Informatics, the Colleague of Art and possible other disciplines engaged in understanding complex data sets (digital humanities, biology, medicine, social sciences etc.). The course focuses on understanding, designing, and implementing interactive visualizations, judging their shortcomings, and creatively think of novel solutions. The course aims to focus on methodological thinking and visualization as a general scientific method, beyond informatics and graphic design.

Target audience and expected demand

Describe the type of student the course would appeal to in terms of background, level of ability, and interests, and the expected class size for the course based on anticipated demand. A good justification would include some evidence, e.g. by referring to projects in an area, class sizes in similar courses, employer demand for the skills taught in the course, etc

As data visualization is a widely applicable field, this course targets students across the university, especially in the master programmes of Design Informatics and Design Informatics. In particular, the course targets students engaged in data analysis and UX/interface design. While web programming skills are desired, no specific programming skills are required for this class. The solution design, reporting, and demonstration can be completed with various tools, which are up to the students to chose. Ideally, students come with their own data and challenges, e.g., from parallel course and project work. These data can be used throughout the course as there are various opportunities to explore, visualize, and otherwise work with the data and related visualizations. The course aims at preparing students with a wide set of skills for data visualization for both industry and research and to help them integrating data visualization into their respective methodologies.
Course activities include group work and are designed to scale to larger numbers of students (~100). In the initial year of the course, it was decided that the course would be open for students from the MSc programmes Data Science and Design Informatics only. The course will later become open to additional programmes and degrees.

Anticipated Resource Requirements

Estimate how much lecturing, tutoring, exam preparation and marking effort will be needed in steady state, and any additional resources needed to set the course up initially. Provide estimates relative to class size where applicable and discuss how support staff will be recruited and supervised, if the class is likely to be very large. Please mention any scaling limits due to equipment or space. If equipment is required, say how it will be procured and maintained.]

The course requires 2h lecturing per week, plus three 1h tutorials over the semester to prepare students for the assignments and learning outcomes. Tutorials might run with a size of 10-20 students, for one tutor. Ideally, the same tutor would be able to cover several tutorials in order to allow a more coherent support for students. No specific equipment is required for the tutorials.

Quotas, special arrangements or unusual characteristics

Please specify if this course requires any special arrangements such as quotas or other registration arrangements; is a collaboration with another school or institution, or has other atypical characteristics that may affect finances or student registration. Further justification/information may be requested for such courses.

The course is run entirely by Informatics. As stated above and after discussions with Sharon Goldwater and Stuart Anderson, the course will be limited to students from Design Informatics and Data Science for the first year. It will open up to other programmes at Informatics in the following years to allow proper setup of the course in the first year.

Narrative description of the course aims and structure

Please describe the main goals of the course and how the course design will allow students to achieve those goals. This section should be consistent with the student-facing information provided below, but should provide additional information to help colleagues at BoS understand the vision and structure of the course. This description may refer to the learning outcomes and graduate attributes (next two boxes) and should explain how activities such as tutorials, labs, or in-lecture activities will support them, and how the proposed assessments will assess them.

For courses that are important pre-requisites for other courses, this section may also provide content/syllabus information which is too detailed for the student-facing description, such as a lecture-by-lecture syllabus.

This course teaches general knowledge about theory, application, design, and evaluation of visualizations. The goal of the course is to enable students to understand the potential of visualizations and how interactive visualization interfaces can support the workflow of data analysis.

The course will enable students to describe a visualization problem, to explore the data using visualizations, to discuss and design appropriate visualization concepts, and to implement and critically reflect on them. The course is designed for an interdisciplinary audience, targeting master and PhD students from informatics, design, digital humanities and digital social sciences, biology, geosciences etc. General programming skills are not required but some relevant JavaScript library (D3.js, https://d3js.org) are provided during the first weeks of the course. Besides interactive visualizations, students can opt to create static visualizations (infographics, data comics, posters, etc), data physicalizations, or any any other form discussed in the course.

During most of the course, students will work in groups of two to three students using real-world datasets they find themselves or which are provided. Groups will go through all the stages of the exploration and visualization design process, in alignment with the above listed learning outcomes; explore data and make initial findings, critique the tools and list shortcomings and possible future features, create custom visualization designs for exploration or presentation, present the visualizations. For a final presentation, each group is expected to present a comprehensive visualization design project, insights gained, and critical reflections.

The course aims for 11 lectures, each targeting a set of principles in data visualizations, and organized as shown below. Lectures will be held as a flipped classroom where lectures require listening to a previously recorded lecture, or reading a book chapter or representative (easy to understand) scientific paper.

Lectures and topics (2h):

1. Foundations I: Introduction to data visualization, visual perception, exploratory data analysis
2. Foundations II: Tools and programming environments for data visualization
3. Techniques I: Visualizing Statistical and Multivariate Data
4. Techniques II: Visualizing Trees and Networks
5. Techniques III: Visualizing Geographic, temporal and geo-temporal data
6. Advances I: Data-driven storytelling and Data Journalism
7. Advanced II: Interaction techniques for Data Visualization
8. Advanced III: Evaluating visualizations
9. Guest lectures (to be decided upon availability): data physicalization, visual analytics, geo-visualization, visualization in immersive environments, HCI for visualization, etc.
10. 2nd guest lecture
11. Revisions
12. Project presentations and demos.

Summary of Intended Learning Outcomes (MAXIMUM OF 5)

List the learning outcomes of the course. These must be assessable (i.e., observable), so must specify what the student should be able to do concretely, not simply what they should "understand". Use concrete verbs that indicate (a) what type of assessment would be appropriate, and (b) what level of knowledge/thinking is expected (from recall to analysis to novel creation). ***Example verbs:*** *define, explain, implement, compare, justify. Assessments (described later) should be tied to the learning outcomes.*

Outcomes should typically focus more on the types of thinking/skills developed than on the detailed course content, and the level of thinking should be appropriate to the level of the course: outcomes for a Level 11 course should include more higher-level thinking skills than for a Level 8 course. Further guidance on writing learning outcomes can be found at https://www.ncl.ac.uk/ltds/assets/documents/res-writinglearningoutcomes.pdf

On completion of this course, the student will be able to

1. **Analysis:** Identify and describe a visualization challenge in terms of context, stakeholders, data, and tasks.
2. **Design**: Design and implement a visualization through one of various media (website, physicalization, infographic, etc.) and through a self-chosen set of tools. Visualization designs are meant to match an earlier identified challenge.
3. **Evaluation:** Critically reflect on a visualization design and suggest constructive solutions.

Graduate Attributes, Personal & Professional Skills

List the personal attributes and generic transferrable skills this course will help develop. Examples include
Cognitive skills: *problem-solving, critical/analytical thinking, handling ambiguity*

Responsibility, autonomy, effectiveness: *independent learning, self-awareness and reflection, creativity, decision-making, leadership, organization and time management, flexibility and change management, ethical/social/professional awareness and responsibility, entrepreneurship*
Communication: *interpersonal/teamwork skills, verbal and/or written communication, cross-cultural or cross-disciplinary communication*

- **Problem analysis**: analyze the problem related to exploring and communicating data in a specific context
- **Critical thinking**: thinking critically about the effectiveness of data visualization for a given challenge, in a given context.
- **Creativity**: searching for (novel) alternative visualization solutions to a specific challenge
- **Visual design:** sensitivity about how to use visual design skills to improve visual communication
- **Teamwork:** discussing problems and ideas within a group of students.
- **Verbal communication**: presenting and discussing a data visualization, avoiding common pitfalls in communicating with data visualizations.

2. Student-facing course description and additional feedback and assessment information

Except where noted, all fields are required and will go into the DRPS entry for the course (for use by students). Important: any text in DRPS is effectively a contract with students, so should not include details that are likely to change from year to year.

Summary Description *Provide a brief official description of the course, around 100 words. This should be worded in a student-friendly way, it is the part of the descriptor a student is most likely to read. If this course replaces another course, please say so in this summary.*	This course teaches how to visually explore data and how to criticize, design and implement data visualizations. It teaches the fundamentals of human perception and data visualization, exploratory data analysis and the importance of interaction in exploration, techniques for data visualization of specific data sets (networks, temporal data, geographic data, etc..), and storytelling. Group work (50%) includes exploring data using existing visualization tools, designing and creating visualization prototypes for exploration or presentation. Individual work (50%) includes criticizing data visualizations. Programming knowledge and experience with JavaScript will very helpful but are not required. The course is open only to students from the following programs: Data Science and Design Informatics.
Keywords *Give a list of searchable keywords.*	data visualisation, exploratory data analysis, visual design, data science, interface design
Course Description *A more detailed student-facing description of the course, which should normally include (a) a more in-depth academic description of the learning aims, nature and context of the course, (b) a rough outline of the content or syllabus, often as bullet points, and (c) a description of how the course will be taught, how students are expected to engage with their learning and how they will be expected to evidence and demonstrate their achievement of the intended learning outcomes.]*	This course teaches general knowledge about theory, application, design, and evaluation of visualizations. The goal of the course is to enable students to understand the potential of visualizations and how interactive visualization interfaces can support the workflow of data analysis. The course will enable students to describe a visualization problem, to explore the data using visualizations, to discuss and design appropriate visualization concepts, and to implement and critically reflect on them. The course is designed for an interdisciplinary audience, targeting master and PhD students from informatics, design, digital humanities and digital social sciences, biology, geosciences etc. General programming skills are not required but some relevant JavaScript library (D3.js, https://d3js.org) are provided during the first weeks of the course. Besides interactive visualizations, students can opt to create static visualizations (infographics, data comics, posters, etc), data physicalizations, or any any other form discussed in the course.

	During most of the course, students will work in groups of two to three students using real-world datasets they find themselves or which are provided. Groups will go through all the stages of the exploration and visualization design process, in alignment with the above listed learning outcomes; explore data and make initial findings, critique the tools and list shortcomings and possible future features, create custom visualization designs for exploration or presentation, present the visualizations. For a final presentation, each group is expected to present a comprehensive visualization design project, insights gained, and critical reflections. The course aims for 11 lectures, each targeting a set of principles in data visualizations, and organized as shown below. Lectures will be held as a flipped classroom where lectures require listening to a previously recorded lecture, or reading a book chapter or representative (easy to understand) scientific paper. <u>Lectures and topics (2h each):</u> 1. Foundations I: Introduction to data visualization, visual perception, exploratory data analysis 2. Foundations II: Tools and programming environments for data visualization 3. Techniques I: Visualizing Statistical and Multivariate Data 4. Techniques II: Visualizing Trees and Networks 5. Techniques III: Visualizing Geographic, temporal and geo-temporal data 6. Advances I: Data-driven storytelling and Data Journalism 7. Advanced II: Interaction techniques for Data Visualization 8. Advanced III: Evaluating visualizations 9. Guest lectures (to be decided upon availability): data physicalization, visual analytics, geo-visualization, visualization in immersive environments, HCI for visualization, etc. 10. 2nd guest lecture 11. Revisions 12. Project presentations and demos.

Assessment Weightings: *These should correspond approximately to the proportion of learning outcomes that each component assesses. More than 30% coursework requires specific justification.* *The expectation for a 10pt course is 20% coursework with the equivalent of one 15-20hr assessed assignment (but possibly split into smaller pieces). See 'components of assessment' below.*	Written Exam __---___% Practical Exam ____% (*for courses with programming exams)* Coursework __100___%
Further Assessment Information *Provide any further information that should go on DRPS for students. E.g., if the assessment includes required group work or if students must pass some individual component of assessment as well as the course overall.*	1) **A1: Group Assignment (50%):** Students work in groups of 2-3 students to analyze, design, and implement a visualization prototype. This can include interactive web visualizations, data physicalizations, data comics, infographics, etc. 2) **A2: Individual Assignment (50%)**: Each student will analyze problems with a given set of visualizations and propose improvements.
Components of assessment and time spent on assignments (for BoS only) *If not already included in the course narrative description, please describe the type of assessments (oral presentation, report, programming, etc) and **how each component of assessment will assess the intended learning outcomes**. Where coursework involves group work, it is important to remember that every student has to be assessed individually for their contribution to any jointly produced piece of work.* *Also estimate **how many hours** students will spend on assignments. Please see the School policy on Workload and Assessment, which states that students should not be expected to spend more than 6-7 hrs/wk per 10 credits, including contact hours.* *Note that it often desirable to include formative assignments which are not formally assessed but submitted for feedback, often in combination with peer assessment.*	**A1**: Written and oral assessment. The oral part will be given by students at the end of the course, presenting their visualization solutions, insights they found in the data. This assessment covers the learning outcomes Analysis and Design. Expected hours: Expected hour investment **30h** **A2**: Written assessment, covering learning outcome Evaluation by having student critically reflect on visualization and visualization design. Expected hour investment **10h**
Feedback Information *Provide a high-level description of how and what type of feedback will be provided to students, for inclusion in DRPS.*	Feedback will be given to students - by tutors in each of the three tutorials - Individual written feedback per assignment handed in.
Additional Feedback Information (for BoS use only) *If not already included in the course narrative, provide further details on planned feedback arrangements. This includes how course feedback is solicited from the class and responded to, as*	- Besides above stated individual feedback: - Lectures will summarize and repeat recurrent problems found in the assignments - oral feedback during tutorials - dedicated time for questions in class

well as what feedback students will get (either on work that contributes to their final mark, or not).

The University is committed to a baseline of principles regarding feedback that we have to implement at every level, and the School encourages submission of at least one piece of written work for formative feedback.

In general, formative feedback:

- *Should say how students can improve.*
- *Need not be on individual work (e.g., consider a lecture or document summarizing common issues.)*
- *Can include oral feedback during labs/tutorials*
- *Can include feedback from peers*
- *Clickers/TopHat/equivalents can provide in-class feedback for both students and lecturer.*
- *Is returned in time for other forms of assessment to which it relates, to allow feedforward.*

Breakdown of Learning and Teaching Activities

State how many hours students spend on each part of the course. The total should be 10 x course credits, but please also see the School policy on Workload and Assessment which states that students should not be expected to spend more than 6-7 hrs/wk per 10 credits, including contact hours.

Assume 10 weeks of lectures slots and 10 weeks of tutorials, but these need not all be used. As a guideline, a 10-pt course typically has 18-20 lecture hours, but should have only around 15 lectures of examinable material; the rest should be used for guest lectures, revision sessions, introductions to assignments, etc.

Contact hours

Hours	Type
20	Lecture Hours
3	Seminar/Tutorial Hours
-	Dissertation Project Supervision Hours
-	Supervised practical/Workshop/Studio hours
-	Feedback/Feedforward hours
-	Summative assessment hours
2	Revision Session Hours

Non-contact hours

Hours	Type
40	Directed Learning & Independent Learning hours

Total hours: 65 hours

Reading List/Learning Resources

You are encouraged to create resource lists using LEGANTO

- Segel, Heer, Narrative Visualization, 2010, https://egerber.mech.northwestern.edu/wp-content/uploads/2015/02/Narrative_Visualization.pdf
- Bertin, Semiology of Graphics, 1987
- Nussbaumer: Storytelling with Data, 2017: http://www.storytellingwithdata.com
- Tufte: Visual Evidence: Images and Quantities, Evidence and Narrative, 1997
- Colin Ware: Information Visualization, 1999
- Tamara Munzner: Visualization Analysis & Design, 2014

	- Scott Murray: Interactive Data Visualization for the Web—An Introduction to designing with D3, 2013 - Manual Lima: Visual Complexity—Mapping Patterns of Information, 2011 - Ben Shneiderman: The eyes have it: A task by data type taxonomy for information visualizations, 1996 - Panday et al: How deceptive are deceptive visualizations?: An empirical analysis of common distortion techniques, 2015 - von Landesberger et al: Visual analysis of large graphs: state-of-the-art and future research challenges, 2011 - Tamara Munzner: A nested model for visualization design and validation, 2009

3. Further information for BoS consideration: sample materials

A full proposal for a new course must include examples of exercises and assessment. Please provide these below, along with publicity information if the course is to be advertised outwith the School.

Course information and publicity *The course web page (typically the Learn landing page) will be linked from the Sortable Course List, and information such as timetables and assignment deadlines must be made available prior to the start of the academic year. Please specify here if any additional info/publicity is needed for your course: typically only if it is aimed largely at non-SoI students.*	
Sample tutorial/lab sheet questions *Provide a list of tutorial questions and answers and/or samples of lab sheets. These need not be fully fleshed out but should indicate what sort of exercises will be provided to help students learn the material.*	
Sample assessment materials *If the course is primarily assessed by **exam**, provide a sample exam question with model answers. Any non-standard exam format must be justified. The online list of past exam papers gives an idea of typical and alternative exam formats: http://www.inf.ed.ac.uk/teaching/exam_papers/.* *If the course is largely or primarily assessed by **coursework**, provide a sketch of a possible assignment with an estimate of effort against each sub-task and a description of marking criteria.*	
Any other relevant materials *Include anything else that is relevant, possibly in the form of links. If you do not want to specify a set of concrete readings for the official course descriptor, please list examples here.*	

4. Additional Course Details for DRPS

Except where otherwise noted, these fields are required for entry into EUCLID and will be visible to students in the DRPS entry.

Planned Academic Year of Delivery *(The first year you anticipate the course running, e.g. AY 2019-20)*	
Course Organiser *(By default, the course proposer)*	
Intended Delivery Period	___Semester1 ___Semester 2 ___Full Year ___Summer ___Other (please specify):
Timetable considerations/conflicts *For School use. Please specify any constraints to be considered (e.g. overlap of popular combinations, other specialism courses, external courses etc). Include whether the semester delivery is constrained or could be flexible.*	
Is this course available to visiting students?	___Yes (default) ___No **If no, please provide a justification here:**
Required pre-requisite courses *Use sparingly: these are enforced in PATH and can only be waived by approval from the School's Curriculum Approval Officer. Note that cross-year required pre-requisites may prevent MSc students from registering; consider using recommended pre-requisites or "other requirements" instead.*	___No ___Yes (please specify full course name(s) and code(s)):
Recommended pre-requisite courses	___No ___Yes (please specify full course name(s) and code(s)):
Required co-requisite courses *Specify any courses that must be taken in parallel with the existing course. Note that this leads to a timetabling constraint that should be mentioned elsewhere in the proposal.*	___No ___Yes (please specify full course name(s) and code(s)):

Prohibited Combinations *Specify any courses that may not be taken in combination with the proposed course].*	___No ___Yes (please specify full course name(s) and code(s)):
Other Requirements/Additional Information *This information is often used by MSc students and students from other Schools to see if they have appropriate background without having done our School's courses. So please avoid course titles, instead list specific knowledge and skills (such as mathematical concepts, programming ability or specific languages, etc).* *Also list any other constraints on registration, for example: "Only available to 4th Year Informatics students including those on joint degrees." or "This course is open to all Informatics students including those on joint degrees, and to students in the School of Mathematics. Other external students whose DPT does not list this course should seek permission from the course organiser."*	___No ___Yes (please specify):
Visiting Student Pre-requisites	___Same as "other requirements" ___Different than "other requirements" (please specify):

5. Placement in degree programme tables: for level 9-11 courses only

This section is for consideration by the Board of Studies and will be used later by ITO to determine where the course will be added to existing degree programme tables.

Is this course restricted to students on a specific degree? *E.g., some courses are only available to students on a specific CDT or MSc.*	__No __Yes (please specify and provide justification):
Is this course compulsory for students on any degree(s)?	__No __Yes (please specify and provide justification):
Any issues for part-time students? *Normally, part-time students have access to the same courses as full-time students on the equivalent degree. If you anticipate any problems with this, please specify here.*	

For optional courses:

If this course is available but non-compulsory for students on various degrees (most courses), please fill in this section. The choices here determine where the course appears in degree programme tables (DPTs) and the 2-3 character tags are displayed in the Informatics sortable course list.

Should this course be tagged as 'ML' (machine learning foundations and methods)? *Courses with the ML tag are typically very high-demand and most degrees limit the number of ML credits. If your course might appeal to a similar audience but draw off students from these large courses, please select 'no' and choose one of the tags below.*	__No __Yes
If you chose 'no', please choose at least one of the following tags… *Ideally, select exactly one, unless there is a good argument for more than one. These three are used in various combinations for many of our degrees.*	__**FSS** (CS foundations, systems, and software) __**AIA** (artificial intelligence applications and paradigms) __**COG** (cognitive science: including HCI and NLP courses, but not most other AI courses. Please restrict to courses most relevant to natural cognition.)
…and also tick if any of the following tags or categories apply. *Do not tick any of these if you selected 'ML' already.*	__**NS** (natural systems: e.g., computation by or about biological or social systems. Many COG courses are also NS. This tag is mainly relevant for MSc in Informatics.) __**SE** (software engineering: including courses that are highly relevant to SE degrees. All SE courses should also be FSS. This tag is mainly relevant for UG SE degrees.) __Databases and data management systems (used for Data Science MSc and MSc(R))

	__Unstructured data and applications (used for Data Science MSc and MSc(R)) __Level 11 Security courses (used for Security MSc)
If you are not sure which tags are most appropriate or have other questions about this section, please note any comments/issues here.	

6. Comments from colleagues

All course proposal should be sent to relevant colleagues in the area as well as to the appropriate year organizer and BoS Academic Secretary for comment in good time before the BoS meeting. Please indicate here what feedback has been solicited and received.

Additional Comments *Summarise any comments received from relevant individuals prior to proposing the course. If you have not discussed this proposal with others please note this.*	
Year Organiser Comments *Year Organisers are responsible for maintaining the official Year Guides for every year of study, which, among other things, provide guidance on available course choices and specialist areas. The Year Organisers of all years for which the course will be offered should be consulted on the appropriateness and relevance on the course. Issues to consider here include balance of course offerings across semesters, subject areas, and credit levels, timetabling implications, fit into the administrative structures used in delivering that year.]*	
BoS Academic Secretary Comments *Proposals must be checked by the Secretary of the Board of Studies prior to discussion at the actual Board meeting. This is a placeholder for their comments, mainly on the formal quality of the content provided above.*	