

School of Computer Science and Engineering Workload Formula October 2023

This workload formula is developed with reference to the UNSW (Academic Staff) Enterprise Agreement 2023 ("the Agreement") and applies to all teaching and research staff and all education focused staff ("staff") in the School of Computer Science and Engineering ("the school"). For the sake of clarity in this document, a staff member is defined to be *education focused* if they are: (i) an education focused employee, or (ii) a teaching and research staff member undertaking a predominantly education focused role for a defined period, as allowed under Schedule 3(c) of the Agreement.

A full workload (expressed as 100%) for a full-time employee is 1610 hours per year. Calculations in the workload formula apply pro-rata to fractional-time staff. Staff seconded to other organizations or work units in the university are typically treated as fractional-time staff, however there may be exceptions to this depending on the nature of the secondment.

Academic work is divided into teaching, teaching-related activities, research and leadership/service. Teaching-related activities encompass (Clause 23.3(g)):

- (i) pedagogical innovation, discipline related education research and scholarship; and/or
- (ii) professional development of teaching, educational technologies and related skills.

Teaching and research staff without research fellowships are expected to allocate their time as follows:

- Teaching – 40%;
- Research – 40%;
- Leadership/service – 20%.

Education focused staff are expected to allocate their time as follows, with the teaching-related activities component requested by the employee and agreed by the supervisor during professional development meetings:

- Teaching – 60%;
- Teaching-related activities – 20%;
- Leadership/service – 20%.

Teaching

Teaching encompasses course preparation, lecturing, tutorials, lab demonstrations, marking and coursework thesis/project supervision. Each standard lecture-based or project-based course is allocated to one academic in charge who is responsible for all course administration and assessment and who is also often the main course lecturer. It is therefore convenient to define the workload for the convenor/lecturer of a single standard course.

Roughly, each teaching and research staff member is expected to convene/lecture one course per term in two terms a year, and each education focused staff member one course per term in three terms a year, though workloads will vary according to course sharing, course size and course type. Staff teaching smaller courses may need to take more tutorials or labs, or supervise more coursework students, to reach their expected teaching workload. Additionally, education focused staff may teach more in some terms to leave time free of teaching in other terms for teaching-related activities or research.

1. Lecture-Based Courses

The load assigned to a convenor/lecturer for a course of size at least 50 is $238 + 10N$ hours, where N is the number of students enrolled in the course at the end of term divided by 50, rounded up to the nearest integer. That is, the load for a course of size 51–100 is 258 hours, and the load increases by 10 hours for each additional 50 students. For small courses (less than 50 students), the load is 168 hours for the first 10 students, increasing in increments of 20 hours for each additional 10 students. There is no guarantee that small courses will be offered, however they may be taught by staff outside their allocated load.

Table 1 shows the workload in hours for a single convenor/lecturer of a lecture-based course. The basis for this calculation is below. Where convenor/lecturer duties are split equally between two or three lecturers, the lecturer hours (b)–(f) are shared proportionately and the convenor hours (a) are counted towards the workloads of each course lecturer.

(a) *Academic in Charge* – $30 + 2N$ hours, where N is defined as above.

The work of the academic in charge includes handling term planning, room bookings, enrolment requests and requests for course equivalence, selecting tutors/demonstrators, updating the syllabus, course outline, tutorials, labs and online materials, coordinating with lecturer(s) of other streams, convening weekly tutor meetings, coordinating tutors/demonstrators, finalizing marks and grades, setting up and marking supplementary exams, and deciding plagiarism cases, grievance cases and marks reviews.

(b) *Course administration* – $30 + 3N$ hours, where N is defined as above.

This work includes setting up systems for administration, marking, marks finalization and plagiarism detection, and the course forum, checking and updating lab software, updating tutor notes and sample solutions for tutorials/labs, responding to tutor e-mail throughout term, setting up assignment submission, coordinating and moderating assignment and exam marking, handling special cases of assignment submissions/marking, processing special considerations and disability adjustments, entering marks, testing, gathering evidence and discussing plagiarism cases, responding to student enquiries about marking schemes and feedback, and gathering material for grievance cases and marks reviews.

(c) *Consultation* – $10 + 5N$ hours, where N is defined as above.

Consultation includes office appointments, moderation of the course forum, responding to student e-mail, and assignment consultations. Much of the additional work required for large classes (compared to small classes) consists of responding to forum questions from students.

(d) *Lectures* – 108 hours

A lecture-based course is presumed to have 36 lectures, 4 lectures per week in 9 weeks of a 10-week term. Consistent with Schedule 2 of the Agreement, each lecture hour involves two hours of associated work.

(e) *Assignments* – 30 hours

This includes setting assignments and developing model solutions, developing auto-marking scripts and marking rubrics, and marks moderation.

(f) *Examinations* – 30 hours

Examination setting and marking is allotted 30 hours as standard, with assistance to be provided for additional hours of work.

The above loads are multiplied by 1.3 for teaching a course with minor revision, by 1.5 for a course involving substantial revision, and by 2 for a new course completely designed from scratch. Taking a course for the first time is likely to involve at least minor revision.

2. Project-Based Courses

Project-based courses require students to design and implement a software project or complete a series of hardware lab exercises under the supervision and guidance of a mentor. While such courses often have fewer lectures than a lecture-based course, the time and effort preparing project specifications and supervising groups is deemed to compensate. Further, despite having no final examination, project-based courses have comparable assessment to lecture-based courses, in that projects are assessed at multiple stages throughout term (similar to assignments), and there is a major assessable team demonstration and presentation in place of the examination. For these reasons, a project-based course is allocated the same workload as a lecture-based course, assuming that the convenor/lecturer does final project assessment, approximating the time allocated for examinations.

3. Convenor/Lecturer Loads

Staff teaching loads are measured for periods of one academic year. A full-time teaching and research staff member is expected to spend 644 hours (0.40 FTE) on teaching over the course of a year, normally 322 hours (0.20 FTE) per term in each of two terms a year. Full-time education focused staff are expected to spend 966 hours (0.60 FTE) on teaching over the course of a year, which is typically made up of 322 hours (0.20 FTE) for one course in each of three terms. However, staff may, by arrangement with the Deputy Head of School (Education), spread their teaching workload flexibly across any number of terms (including summer), or have a greater load in one term and a lesser load in another. This arrangement may especially suit fractional-time employees. Staff who are substantially overloaded with teaching in one year may expect a reduction in teaching the following year (Clause 23.3(k)).

A standard course workload, on the basis that a single staff member convenes and lectures an entire course, fulfilling the duties listed in (a)–(f), and similarly for project-based courses, designs and does the final project assessment, reaches the expected full time load of 0.20 FTE (rounded from 318 hours) for a course of size 351, as shown in Table 1 (highlighted). Staff teaching larger courses in one term may share courses or teach smaller courses or online courses in other terms so as not to exceed the overall expected teaching workload.

Where a staff member’s teaching load is higher than the required amount (40% for teaching and research staff, 60% for education focused staff, less reductions for high amounts of leadership/service – see below), admin support can be requested to cover the excess hours. **However, no duties of the academic in charge may be delegated to course admin staff.**

Table 1: Convenor/Lecturer Workload (Hours) per Course

Size	1–10	11–20	21–30	31–40								
Load	168	188	208	228								
Size	41–50	51–100	101–150	151–200	201–250	251–300	301–350	351–400	401–450	451–500	501–550	551–600
Load	248	258	268	278	288	298	308	318	328	338	348	358
Size	601–650	651–700	701–750	751–800	801–850	851–900	901–950	951–1000	1001–1050	1051–1100	1101–1150	1151–1200
Load	368	378	388	398	408	418	428	438	448	458	468	478

4. Online Teaching

An online course is typically part of a UNSW Online Masters program or the Cyber Security Masters program with courses run over a 6 week "hexamester". An online Masters course is not equivalent to a standard lecture-based or project-based CSE course, as student workload is 90–120 hours compared to 150 hours for a CSE course. In addition, online courses typically have no prerequisites. This means that all CSE online courses are essentially new courses, even when derived from an existing course.

Each course offering is supervised by a course convenor who oversees the running of the course, and takes responsibility for academic standards, general course administration, and setting (also often marking) assessment items. The course lecturer (often the same as the convenor) may make use of pre-prepared videos that give a welcome to the course and an outline of each week's activities. Development of this material is outside the scope of this workload formula. The lecturer typically gives weekly webinars similar to lectures to explain the course material. In addition, there is an allowance to the convenor for updating course content and assessment for each offering (estimated as between 10% and 20% of the content).

An online course also involves smaller online tut-labs in "streams" of around either 24 or 30 students, with workload consistent with Schedule 2 of the Agreement (one hour preparation for each tutorial plus one hour associated work for each tutorial or repeat tutorial; one hour for each contact hour for demonstrations). Each online tutor also contributes to course administration and student consultation (moderating a course forum and answering student e-mail), troubleshooting technical problems, coordinating with other tutors and the course convenor, and marking of assignments and exams.

Due to differences between UNSW Online and Cyber Security Masters teaching, there are two workload calculations, and because the amount of pre-prepared material differs from course to course, the number of lectures per week and the work required for each tut-lab vary according to the course. As with standard CSE courses, the calculation below combines the loads for the convenor and the lecturer. In addition, if a convenor/lecturer also acts as a tutor/marker, the tutor/marking workload is also counted in their workload.

The load assigned to the convenor/lecturer for a UNSW Online course is $90 + 18L + 5S$ hours, and for a Cyber Security Masters course is $80 + 18L + 5S$ hours, where L is the number of lecture hours per week and S is the number of streams in the course. The basis for this calculation is as follows.

- (a) *Lectures* – $18L$ hours
- (b) *Academic in Charge + Course Administration* – $50 + 5S$ hours
- (c) *Course update* – 20 hours (UNSW Online); 10 hours (Cyber Security Masters)
- (d) *Assessment* – 20 hours

The load for each tutor depends on the number of tutorial and demonstration hours, here combined into a single tut-lab total that varies from course to course but for a UNSW Online course is either 2 hours (1 hour tutorial plus 1 hour lab) or 3 hours (2 hours tutorial plus 1 hour lab), and for a Cyber Security Masters course is always 3 hours. Student consultation is measured as 4 hours per week per stream. Thus if a tutor takes S streams, the total workload is either $12 + 36S$ hours or $18 + 42S$ hours (the latter for all Cyber Security Masters courses). A weekly 1-hour tutor meeting is included in the preparation time for the tut-labs.

5. Tutorials, Seminars and Practical Classes

Workload allocated to lecturers undertaking tutorials, seminars and practical classes are in line with Schedule 2 of the Agreement. That is, each new tutorial/seminar hour is given 2 hours of associated working time, each repeat tutorial/seminar hour is given 1 hour of associated working time, and each hour for a practical class is assigned only the 1 hour for class delivery. However, practical classes may require additional workload hours, such as for preparation and communication with students. **Note that a class held in a laboratory can be a tutorial or practical class depending on the nature of the work (Clause 18.1).**

6. Coursework Thesis/Project Supervision

The undergraduate thesis is divided into three courses (Thesis A, B and C). Postgraduate coursework students may undertake a research project (Research Project A, B and C). For each course, the supervisor load is 10 hours per student or team (where more than one student work together on a common project). Undergraduate special projects count as either 10 hours (Special Project A – 6 units) or 20 hours (Special Project B – 12 units). There is a cap of 4 undergraduate thesis students or teams at any one time. Supervision of a capstone project is counted as 10 hours per team for a one term project, with a cap of 4 teams per term.

7. VIP Supervision

Vertically Integrated Projects (VIPs) are year-long team-based undergraduate student projects that are intended to be supervised by research associates/fellows or higher degree students, with oversight provided by an academic staff member. The workload allocated for the academic staff member is 30 minutes per team (of size 3–5) per week for 45 weeks of the year, with a multiplier of 1.3 for the first year as an "establishment cost". The supervision load is split by agreement between the CSE academics involved.

Leadership/Service

A full-time staff member, whether teaching and research or education focused, is expected to spend 322 hours (0.20 FTE) on leadership/service per year, pro rata for fractional-time staff (research fellowship holders are an exception – see below). Leadership/service encompasses school/university commitments, school/faculty management and professional service. As a general principle, the allocation of school/faculty management roles should be made with the aim of sharing the load equitably amongst staff members.

(a) *School/university commitments* (5%)

This includes attendance at school/education/research committee meetings, graduations, prize ceremonies, info/open/planning days, visitor hosting, interview/promotions panels, reading university policies and procedures, learning university software and systems, university training modules and surveys, staff induction, coursework thesis assessment, research student review panels and annual performance reviews.

(b) *School/faculty management* (up to 50%)

This includes the various required school/faculty management roles and university committee membership.

(c) *Professional service* (5–15%)

This includes conference/journal/grant proposal reviews, conference/workshop organization, editorial boards, professional society/peak body work, thesis examinations, project reviews.

Staff are expected to regulate their contribution to professional service so that their overall leadership/service load is 20%. That is, staff whose combined load from school/university commitments and school/faculty management does not reach 20% are expected to contribute the shortfall in load to professional service, while staff taking on a major school or faculty management role are assumed to limit their contribution to professional service to 5%. All staff (except fellowship holders) are expected to contribute to school/faculty management.

Table 2 shows the full year FTE loads (loads apply pro-rata to any part of the year) for the major school management roles. As far as possible, loads should be distributed between multiple staff members either by splitting the required work into different functions, or by sharing the volume of work over different time periods, so that individuals do not have a load above 0.10 FTE. The loads in Table 2, in some cases, reflect the current high student numbers in the school, and will need revision as both student numbers and the nature of the work change. A "position description" for each role should be developed and maintained in order to properly reassess loads as circumstances within the school change.

Staff whose total leadership/service workload exceeds 20% (for full-time staff, those with a full school/faculty management role or share of such a role with load greater than 0.10 FTE) receive a reduction in teaching by the amount of the excess above 20% (their share of the amount, less 0.10). This applies to fractional-time staff after the FTE loads are converted into a percentage of work time in the school. As exceptions, teaching loads for the Head of School and Deputy/Associate Head of School (Education) will be determined independently.

Overriding this, full-time staff contributed in-kind to organizations external to the school, such as CRCs and research centres, in roles that include significant research management, receive a discount of 1/6 of their teaching load (from 0.40 FTE to 0.33 FTE) if that contribution is at least 0.50 FTE, 1/3 of their teaching load if that contribution is at least 0.60 FTE (from 0.40 FTE to 0.27 FTE), and 1/2 of their teaching load (from 0.40 FTE to 0.20 FTE) if that contribution is at least 0.70 FTE, with no allowance for school management.

Table 2: Workload (FTE) for Major School Management Roles

School Management Role	Load
Head of School	0.80
Deputy Head of School (Education)	0.50
Associate Head of School (Education)	0.50
Deputy Head of School (Research)	0.10
Associate Head of School (Research)	0.10
Associate Head of School (External Engagement)	0.20
UG CS Director of Studies	0.30
UG CS (Hons/Advanced) Director of Studies	0.10
UG SENG Director of Studies	0.15
UG COMPENG Director of Studies	0.10
UG BINF Director of Studies	0.10
UG Thesis Coordinator	0.10
PG Coursework Director of Studies	0.30
Director Online Education	0.20
Director Online Cyber Security Masters	0.15
PG Research Coordinator (Candidature)	0.15
PG Research Coordinator (Admissions and Scholarships)	0.10

Special Studies Program/Internal Release

A staff member may be approved to take one–two terms or 3–6 months of SSP/Internal Release. Staff normally take SSP/Internal Release over one term in which they would otherwise be teaching (Clause 23.5(c) of the Agreement). A teaching and research staff member will be deemed to have met the full teaching workload for one term (322 hours); an education focused staff member for the whole period of SSP/Internal Release (at 322 hours per 15 week period). Staff will be deemed to have contributed 20% leadership/service load for the full period of the SSP/Internal Release.

Workload Allocation, Monitoring and Review

A subcommittee of the Education Committee, comprising at least the Deputy Head of School (Education) and the Associate Head of School (Education), will be responsible for workload allocation, monitoring and review in accordance with this workload formula. The committee will consider the allocation of teaching and school management roles with the aim of balancing workloads, both for individuals across successive years (Clauses 23.3(k) and 23.3(m)), and between individuals in the school in the same year (Clause 23.3(d)). As part of this process, the committee will consider whether the position descriptions and loads for school management roles shown in Table 2 need to be modified as student numbers and the nature of the work change. The committee is also responsible for monitoring individual workloads and more generally the application of the workload formula, for recommending changes to the workload formula, and for providing advice to the Education Committee on planning of future course offerings.

To support the fair and transparent allocation of work, any staff member will at any time be able to view the breakdown of their teaching workload calculation according to this formula, alongside the similar breakdown of any other individual staff member, in accordance with Clause 23.3(d)(iv) of the Agreement, and may request a review of their workload, initially via this committee, in accordance with Clause 23.3(o) of the Agreement.

Special Provisions

1. Early Career Academics

Early Career Academics, defined as Level A–C staff within 7 years after their PhD graduation, with a teaching and research position, receive a reduction in teaching load of 20% for the first 2 years after PhD graduation. This time is made available in part to establish a research track record. Such teaching and research staff therefore allocate time as follows:

- Teaching – 32%;
- Research – 48%;
- Leadership/service – 20%.

Education focused Early Career Academics may conduct research with the prior approval of the Head of School (typically 20%). Similar to teaching and research staff, education focused staff who are Early Career Academics receive a 20% reduction in teaching load for the first 2 years after PhD graduation, thus allocate time as follows:

- Teaching – 48%;
- Teaching-related activities – 12–32%;
- Research – Up to 20% (by agreement with the Head of School);
- Leadership/service – 20%.

2. New Staff

Staff new to the school (not previous casual lecturers) receive a reduction in teaching load of 10% for their first year of employment, excluding Early Career Academics who receive the reductions described above. This means new teaching and research staff in their first year of employment allocate time as follows:

- Teaching – 36%;
- Research – 44%;
- Leadership/service – 20%.

New education focused staff (other than Early Career Academics) in their first year of employment allocate time as follows:

- Teaching – 54%;
- Teaching-related activities – 26%;
- Leadership/service – 20%.

3. Research Fellowship Holders

Research fellowships typically offer funding for 80% research and research-related activities. To provide sufficient time for research, a fellowship holder should not undertake a major school management role and should relinquish any such role when commencing a fellowship. A fellowship holder is expected to contribute 5% to school/university commitments including any minor school management roles, while any professional service activities are subsumed under research-related activities covered by the fellowship. The remaining time is expected to be contributed to teaching.

Research fellowship holders funded for 80% research thus typically allocate time as follows:

- Research – 80%;
- Teaching – 15%;
- Leadership/Service – 5%.

Note that reductions in teaching loads expressed in fractional terms in policy documents do not compound when multiple fellowships are held.

School funded postdoctoral researchers allocated to a fellowship holder are required to adopt a full 40% teaching load. This is in addition to the teaching load of the fellowship holder.

Fellowship holders seconded to other organizations or work units in the university are considered on a case-by-case basis. However, where the secondment is primarily for a research and/or research management role that can be subsumed under the fellowship, no reduction in teaching workload will apply in virtue of the secondment.

4. Special Events

A staff member wishing to take on major professional service activities (such as conference organization) must apply to the Head of School in advance of making any commitments in order to receive a compensatory reduction in teaching and/or leadership/service load.