

Regolamento di riconoscimento dei crediti dottorali (CD) per attività di formazione e ricerca (a partire dal 40° ciclo) -

Regulation for the recognition of doctoral credits (CD) for training and research activities (starting from 40° cycle)

-English version below-

Obiettivo del programma di istruzione e formazione del dottorato in **Meccanica e Scienze Avanzate dell'Ingegneria (DIMSAI)** è quello di fornire un percorso didattico strutturato e monitorabile, caratterizzato da un'adeguata flessibilità per essere adattato alle diverse esigenze culturali degli specifici ambiti di ricerca dei dottorandi del DIMSAI. Il Corso pubblica sul proprio sito internet questo documento "Regolamento di riconoscimento dei crediti dottorali (CD) per attività di formazione e ricerca" che si applicherà agli studenti immatricolati a partire dal 40° ciclo.

1. Obiettivi: Il Corso di Dottorato DIMSAI si prefigge l'obiettivo di fornire ai dottorandi iscritti le competenze per esercitare attività di ricerca di alta qualificazione negli ambiti delle discipline relative ai settori scientifici disciplinari che lo caratterizzano, inerenti la meccanica e le scienze ingegneristiche ad essa associate. Il Dottorato offre un percorso formativo con finalità sia accademiche che professionali. Sviluppa le capacità del candidato di svolgere studi e ricerche originali in modo indipendente, sistematico ed approfondito, con un opportuno iter di studi avanzati di terzo livello, consistenti in corsi e seminari specialistici. Ha l'obiettivo di incrementare il livello di conoscenze del candidato nelle materie specifiche del programma di ricerca e in quelle specifiche del Dottorato. Intende fornire ai dottorandi competenze multidisciplinari incoraggiando la partecipazione ad eventi organizzati dagli altri Dottorati del Dipartimento o di altri Dipartimenti, stimola la partecipazione ad eventi utili per acquisire le competenze trasversali indispensabili per le future attività professionali. Incoraggia infine la partecipazione ad eventi organizzati da Altri Atenei o Istituzioni di Ricerca, in Italia e all'estero. Intende stimolare la capacità di condurre attività di ricerca in collaborazione con gruppi di ricerca internazionali, sviluppando capacità e metodologie alternative nel confronto con ricercatori afferenti a centri di ricerca Esteri. Grazie alla supervisione di uno o più tutori, il percorso formativo intende fornire le conoscenze teoriche e pratiche per elaborare una tesi di Dottorato che dimostri il livello di originalità e la rilevanza degli studi effettuati nell'ambito delle tematiche del corso. Il candidato dovrà inoltre dimostrare di essere in grado di documentare, esporre e discutere il proprio lavoro in modo chiaro ed efficace, in Italiano e in Inglese. Un ulteriore obiettivo del corso di Dottorato consiste nel formare i dottorandi affinché siano adeguatamente preparati ad intraprendere percorsi professionali caratterizzati da elevata innovatività nell'ambito dell'industria meccanica, energetica, nucleare, manifatturiera e di altri comparti industriali, al fine di progettare, gestire e realizzare progetti di ricerca ed innovazione e per concorrere all'ideazione e messa in opera di prodotti e processi nuovi e complessi. Lo scopo del percorso di studio offerto con questo corso di dottorato è infine anche quello di formare le competenze per operare in contesti internazionali e multidisciplinari. In termini generali, e per diversi aspetti formativi, il corso di Dottorato contribuisce anche al perseguimento dei seguenti Obiettivi di Sviluppo Sostenibile dell'Agenda 2030 dell'ONU: 7 Energia pulita e accessibile; 9 Impresa, innovazione e infrastrutture; 11 città e comunità sostenibili; 12 Garantire modelli sostenibili di produzione e di consumo; 13 Lotta contro il cambiamento climatico.

2. Struttura: il programma di formazione e ricerca prevede:

a) Lo svolgimento, sotto la guida di uno o più supervisori, di un programma di ricerca individuale inizialmente proposto dal candidato, eventualmente ridefinito ed aggiornato, infine verificato ed approvato dal Collegio dei Docenti, riferito a un ambito disciplinare fra quelli previsti dal Corso di Dottorato;

b) La partecipazione ad attività didattiche, formative e di disseminazione complementari all'attività di ricerca, selezionate dal Candidato congiuntamente con il Supervisore, per l'ottenimento di almeno 36 crediti dottorali sui 180 previsti nei 3 anni di corso. Le attività formative che portano al riconoscimento dei crediti riguardano:

- corsi disciplinari, multidisciplinari e transdisciplinari espressamente erogati per il terzo ciclo formativo dal Dipartimento DIN o da altri corsi di dottorato anche non UniBo;
- attività trasversali espressamente erogate da Unibo per il terzo ciclo formativo con gli altri dottorati quali, ad es., il perfezionamento linguistico e informatico, attività nel campo della didattica, la formazione nel campo della gestione, disseminazione e della valorizzazione della ricerca e della proprietà intellettuale, la conoscenza dei sistemi di ricerca europei e internazionali, dell'accesso aperto ai dati e ai prodotti della ricerca, dei principi fondamentali di etica, uguaglianza di genere e integrità anche in riferimento agli sbocchi professionali dei dottorati di ricerca;
- Conferenze, summer schools, workshops, seminari, corsi universitari nelle tematiche specifiche o complementari relative al proprio programma di ricerca;

c) Lo svolgimento di un periodo all'estero di almeno 3 mesi, finalizzato a migliorare il livello di internazionalizzazione della propria attività di ricerca.

d) Lo svolgimento di periodi in Azienda o in Università o Centri di Ricerca (sia italiani che esteri) in aggiunta ai 3 mesi del punto precedente.

e) La pubblicazione, nei tre anni di Corso, di almeno 2 articoli, preferibilmente su Riviste Scientifiche, oppure su atti di Conferenza indicizzati. L'aggiornamento costante del database iris (<https://cris.unibo.it/>) con i risultati della ricerca prodotti dal candidato.

f) La compilazione e l'aggiornamento della propria pagina web sul sito di UniBo e la compilazione annuale dei questionari OPID delle opinioni dei dottorandi. La compilazione del questionario Almalaurea in fase di caricamento della tesi finale.

g) Il progetto formativo si conclude con la stesura della tesi finale redatta in lingua italiana o inglese, valutata da revisori esterni e la successiva discussione di fronte ad una commissione di membri esperti.

Nella giornata di avvio del ciclo Dottorale vengono illustrati ai nuovi Dottorandi il regolamento e le procedure per il riconoscimento dei crediti congiuntamente alle altre informazioni e obblighi rilevanti per lo svolgimento del proprio percorso Dottorale. Tale presentazione è inoltre resa disponibile nella pagina web del Dottorato. Lo stato di avanzamento e la congruità del programma di formazione e ricerca viene valutato annualmente, assieme all'acquisizione dei CD e il rispetto degli ulteriori vincoli, dal Collegio dei Docenti nella riunione di passaggio d'anno in cui vengono valutate:

- una relazione (Report Annuale al termine di ogni anno),
- una presentazione (al termine del secondo anno)
- una discussione del lavoro svolto (al termine del terzo anno per l'ammissione all'esame finale).

I template relativi ai report annuali sono riportati in allegato e sono disponibili in versione compilabile sul sito del dottorato.

Il percorso dei dottorandi è regolato dal **REGOLAMENTO DI ATENEO IN MATERIA DI CORSI DI DOTTORATO** (<https://www.unibo.it/it/studiare/dottorati-master-specializzazioni-e-altra-formazione/dottorati/regolamento-dateneo-in-materia-di-dottorato>).

3. Crediti Dottorali e loro riconoscimento: I Crediti Dottorali (CD) misurano il carico di lavoro richiesto al Dottorando nelle attività di ricerca e formazione per il conseguimento del titolo. Ogni CD vale 25 ore di impegno e il Dottorando deve conseguire 60 CD all'anno. Il DIMSAI ripartisce il monte complessivo di CD tra attività di ricerca, attività di formazione e didattica, richiedendo che l'attività di ricerca sia prevalente ma non superiore all'80% del totale (144 CD) e prevedendo quindi una attività di formazione e didattica pari almeno

al 20% (≥ 36 CD) come riportato in tabella A. I Dottorandi che, alla fine del percorso dottorale, abbiano acquisito un numero di CD per formazione e didattica superiore a quanto indicato nella Tabella A, si vedranno riconosciuti tali CD in eccesso rispetto ai 180 teorici. Tuttavia, il Collegio monitorerà che non si verifichino squilibri che ostacolino l'attività di ricerca dei Dottorandi.

Tabella A – Distribuzione dei CD tra ricerca, formazione e didattica		
Tipologia di attività	Numero totale di CD	%
Attività di ricerca	144	80
Attività di formazione e didattica	36	20
Totale	180	100

3.1-Crediti Dottorali di Formazione e Didattica

Il DIMSAI ha definito il valore minimo di CD da conseguire per ciascuna delle seguenti attività (tabella B):

- i. formazione disciplinare e multidisciplinare,
- ii. formazione relativa all'acquisizione di competenze trasversali,
- iii. formazione extra-curriculare per la crescita dei dottorandi come membri di una comunità scientifica (summer school, partecipazione a conferenze come uditore, PhD simposia, ecc.),
- iv. disseminazione dei risultati della ricerca,
- v. didattica integrativa e tutorato.

Tabella B – Requisiti per la distribuzione dei CD tra le attività di formazione e didattica		
Tipologia di attività	Numero minimo di CD	Numero massimo di CD
Formazione disciplinare e multidisciplinare	6	-
Competenze trasversali	1	-
Formazione extra curriculare	1	-
Disseminazione	2	-
Didattica integrativa e Tutorato	1	9

Il Corso ha definito inoltre il numero raccomandato di CD da acquisire per formazione, disseminazione e didattica in ciascun anno di corso, in modo da garantire lo svolgimento bilanciato di queste attività rispetto a quelle di ricerca (tabella C). In tale tabella sono anche riportati i crediti dottorali minimi che un Dottorando deve conseguire per poter essere ammesso, in sede di valutazione annuale, all'anno successivo.

Tabella C – CD per formazione e didattica da acquisire nei vari anni di corso		
CD per formazione e didattica da acquisire	Raccomandati	Minimi
alla fine del 1 anno	18	0
alla fine del 2 anno	30	12
alla fine del 3 anno	36	36

I Dottorandi, in accordo con i propri supervisori e co-supervisori, definiscono in modo flessibile i propri specifici percorsi formativi e di ricerca, scegliendo le attività da svolgere, per tipologia e per quantità, nel rispetto dei vincoli stabiliti dal Collegio per ciascuna attività ed anno di corso.

Per il riconoscimento delle attività di formazione, disseminazione e didattica il Collegio del DIMSAI utilizzerà i seguenti criteri (Tabella D):

Tabella D – Corrispondenza tra ore di impegno e CD acquisiti

Tipologia di attività	Ore in aula	Ore di studio autonomo	Ore totali	CD
i. Corsi (formazione disciplinare e multidisciplinare)				
<p>Corsi (con verifica dell'apprendimento) Include, ad esempio:</p> <ul style="list-style-type: none"> • Corsi 3° livello PhD@DIN • Corsi 3° livello altri PhD (anche non UniBo) • Seminari come parte di un corso (ciclo di seminari, con verifica) • Corsi di formazione UNIBO con verifica finale (e.g. ACEs) • Scuole di dottorato / Summer School / Winter school (con verifica) • Corsi di 1° e 2° livello non sostenuti in carriera (anche non UniBo) con superamento verifica finale <p><small>Per essere riconosciuto viene richiesto: copia attestato di frequenza di almeno il 75% delle ore e del voto/idoneità conseguita.</small></p>	5	20	25	1
<p>Corsi laboratoriali teorico-pratici (con verifica dell'apprendimento) esempio: corsi che includono l'utilizzo pratico di una strumentazione, di un macchinario, di un software ma che realizzano anche una formazione di tipo teorica (ad. Es. corso MATLAB, corso PYTHON, etc)</p> <p><small>Per essere riconosciuto viene richiesto: copia attestato di frequenza di almeno il 75% delle ore e del voto/idoneità conseguita.</small></p>	5	20	25	1
<p>Corsi laboratoriali pratici (con verifica dell'apprendimento) esempio: corsi per l'utilizzo di una strumentazione, di un macchinario, di un software senza la parte di formazione teorica</p> <p><small>Per essere riconosciuto viene richiesto: copia attestato di frequenza di almeno il 75% delle ore e del voto/idoneità conseguita.</small></p>	10	15	25	1
<p>Corsi (senza verifica dell'apprendimento) Include, ad esempio:</p> <ul style="list-style-type: none"> • Seminari singoli (non nel contesto di un corso con verifica) • Corsi di formazione UNIBO senza verifica finale • Corsi extra-curricolari • Corsi di 1° e 2° livello non sostenuti in carriera (anche non UniBo) senza verifica finale <p><small>Per essere riconosciuto viene richiesto: copia attestato di partecipazione con certificazione di presenza di almeno 75% delle ore.</small></p>	25	-	25	1
ii. Competenze trasversali				
<p>Corsi per lo sviluppo di competenze trasversali (con verifica dell'apprendimento) Include, ad esempio, corsi non PhD@DIN su tematiche quali:</p>	5	20	25	1

<ul style="list-style-type: none"> • Orientamento al lavoro e progettazione della carriera • Conoscenza dei sistemi di ricerca europei e internazionali • Formazione alla didattica • Formazione alla disseminazione ed alla pubblicazione • Corsi su competenze trasversali per dottorato <p>Per essere riconosciuto viene richiesto: copia attestato di frequenza di almeno il 75% delle ore e del voto/idoneità conseguita.</p>				
<p>Corsi per lo sviluppo di competenze trasversali (senza verifica dell'apprendimento) Include, ad esempio, corsi non PhD@DIN su tematiche quali:</p> <ul style="list-style-type: none"> • Orientamento al lavoro e progettazione della carriera • Conoscenza dei sistemi di ricerca europei e internazionali • Formazione alla didattica • Formazione alla disseminazione ed alla pubblicazione • Corsi su competenze trasversali per dottorato <p>Per essere riconosciuto viene richiesto: copia attestato di partecipazione con certificazione di presenza di almeno 75% delle ore.</p>	25	0	25	1
iii. Formazione extra curricolare				
<p>Partecipazione a convegni e summer/winter school Include, ad esempio:</p> <ul style="list-style-type: none"> • Partecipazione a convegno senza presentazione di un lavoro, o chairing o partecipazione passiva a panel di discussione • Scuole di dottorato / Summer School / Winter school (senza verifica) • PhD simposia <p>Per essere riconosciuto viene richiesto: copia richiesta rimborso missione e copia attestato di partecipazione</p>	1 giorno (8h "frontali" dell'evento)	-	8	0,3
iv. Disseminazione				
<p>Disseminazione attiva dei risultati della propria ricerca Include, ad esempio:</p> <ul style="list-style-type: none"> • Partecipazione a convegno con presentazione di almeno un lavoro • Partecipazione a convegno con partecipazione attiva a un panel di discussione / chairing di sessione <p><u>NON include:</u></p> <ul style="list-style-type: none"> • Preparazione e pubblicazione di articoli su rivista 	1 giorno (8h "frontali" dell'evento)	4 h	12	0,5

<ul style="list-style-type: none"> Co-autorship di contributo a convegno presentato da altri <small>Per essere riconosciuto viene richiesto: copia richiesta rimborso missione, copia attestato di partecipazione e presentazione lavoro (o programma della conferenza con esplicitati i presenter).</small>				
v. Didattica integrativa e tutorato*				
Tutorato* Include: <ul style="list-style-type: none"> Contratti o assegni di tutorato presso UniBo autorizzati dal Collegio Contratti o assegni di tutorato o insegnamento presso altri Atenei/Enti autorizzati dal Collegio <small>Per essere riconosciuto viene richiesto: contratto di tutorato con indicazione delle ore di incarico.</small>	10h di contratto	15h	25	1
Tutorato tesisti* Il candidato deve essere unico dottorando correlatore della tesi (possibili più correlatori ma deve essere unico dottorando) <small>Per essere riconosciuto viene richiesto: schermata di deposito della tesi su lauree.unibo.it</small>	N/A	N/A	Per ogni tesi	1
Docenza* Contratti per docenze retribuite preventivamente autorizzati dal tutor e dal collegio <small>Per essere riconosciuto viene richiesto: contratto di incarico docenza con indicazione delle ore di docenza</small>	5 h di contratto / docenza	20 h	25	1
Altre attività autorizzate				
Attività autorizzate dal Collegio Include, ad esempio: <ul style="list-style-type: none"> Attività lavorative Attività non riconducibili ad attività formativa Periodi all'estero Periodi in Aziende/Enti/Università 	N/A	N/A	0	0

NOTA 1: Per attività in cui l'organizzatore definisce esplicitamente ECTS/CFU/CD secondo uno schema conforme ai criteri generali, verrà di norma considerato il riconoscimento dei CD proposti, anche in deroga ai criteri in tabella.

NOTA 2: L'attribuzione di frazioni di credito, in ragione al numero di ore effettive dell'attività da riconoscere, è effettuata con un criterio di proporzione con arrotondamento ad una cifra decimale (e.g. 31h di corso senza verifica = 1.2 CD).

NOTA 3: Le attività * Didattica integrativa e tutorato (Tutorato, Tutorato Tesi e Docenza) non possono complessivamente superare i 9 CD (25% dei CD di formazione)

NOTA 4: Le durate delle attività di disseminazione ed extracurricolari verranno considerate includendo il trasferimento (e.g. conferenza passiva negli USA di 3 gg + 2gg per il trasferimento=5gg)

3.2-Crediti Dottorali di Ricerca

I crediti dottorali di ricerca saranno riconosciuti annualmente come complemento a 60 dei crediti di Formazione e Didattica in caso di positiva valutazione del Report annuale e degli adempimenti connessi.

Ai dottorandi è richiesto di effettuare obbligatoriamente, durante la durata del percorso dottorale, un periodo di attività di ricerca pari almeno a **3 MESI** in una sede estera includendo Università, centri di Ricerca, Enti o Imprese. Tale periodo può essere non continuativo (ma ogni periodo deve essere superiore al mese per poter accedere alla maggiorazione dello stipendio del 50%) e l'obbligo può essere derogato solo per cause di forza maggiore, quali malattia, maternità/paternità o altre analoghe motivazioni. L'approvazione della richiesta di deroga viene deliberata dal Collegio.

Come criterio per la valutazione della congruità e qualità delle attività di ricerca svolte viene richiesto ad ogni candidato la pubblicazione, durante la durata del percorso dottorale, di almeno **2 articoli**, preferibilmente su

Riviste Scientifiche, oppure su atti di Conferenza indicizzati. Ai dottorandi è richiesto inoltre di mantenere aggiornato il database iris (<https://cris.unibo.it/>) con i risultati della ricerca prodotti.

Infine ai dottorandi viene suggerito di effettuare complessivamente un periodo di almeno 6 mesi al di fuori di Unibo (6 mesi includenti il periodo all'estero, quindi ulteriori 3 mesi nel caso di periodo all'estero di 3 mesi) presso Aziende o Università o Centri di Ricerca Nazionali ed Internazionali e di tenere traccia di tali periodi da rendicontarsi annualmente in sede di Report annuale. Questo ulteriore periodo può essere svolto -con o senza continuità- anche nella medesima sede in cui si effettua il periodo all'estero.

Ulteriori obblighi dei candidati sono:

- Compilare all'inizio del percorso dottorale e mantenere successivamente aggiornata la propria pagina web di UniBo (i.e. <https://www.unibo.it/sitoweb/l.donati/>);
- Compilare annualmente i questionari OPID (opinione dei dottorandi) e il questionario Almalaurea all'atto del caricamento della tesi finale di dottorato.

Ai candidati che non avranno conseguito i CD richiesti o non avranno rispettato gli ulteriori vincoli in termini di periodo all'estero, pubblicazioni, questionari OPID o aggiornamento degli applicativi informatici, sarà negato il passaggio d'anno o l'ammissione all'esame finale.

4. Allegati: sono disponibili in fondo al documento, dopo la versione inglese del regolamento.

Regulation for the recognition of doctoral credits (CD) for training and research activities (starting from 40° cycle)

The aim of the education and training programme of the PhD programme in **Mechanics and Advanced Engineering Sciences (DIMSAI)** is to provide a structured and monitorable educational path, characterized by adequate flexibility to be adapted to the different cultural needs of the specific research areas of the DIMSAI PhD students. The Course publishes on its website this document "Regulations for the recognition of doctoral credits (CD) for training and research activities" which will apply to students enrolled from the 40th cycle.

1. Objectives: The DIMSAI PhD Course aims to provide enrolled PhD students with the skills to carry out highly qualified research activities in the areas of the disciplines related to the scientific disciplinary sectors that characterize it, related to mechanics and the associated engineering sciences. The PhD offers a training course with both academic and professional purposes. It develops the candidate's ability to carry out original studies and research independently, systematically and in depth, with an appropriate process of advanced third-level studies, consisting of specialized courses and seminars. It aims to increase the level of knowledge of the candidate in the specific subjects of the research program and in the specific subjects of the PhD. It aims to provide PhD students with multidisciplinary skills by encouraging participation in events organized by the other Doctorates of the Department or of other Departments, stimulates participation in events useful for acquiring the transversal skills essential for future professional activities. Finally, it encourages participation in events organized by other universities or research institutions, in Italy and abroad. It aims to stimulate the ability to conduct research activities in collaboration with international research groups, developing alternative skills and methodologies in comparison with researchers belonging to foreign research centers. Thanks to the supervision of one or more tutors, the training course aims to provide the theoretical and practical knowledge to develop a doctoral thesis that demonstrates the level of originality and relevance of the studies carried out within the topics of the course. The candidate must also demonstrate that he/she is able to document, exhibit and discuss his/her work clearly and effectively, in Italian and English. A further objective of the PhD course is to train PhD students so that they are adequately prepared to undertake highly innovative professional paths in the mechanical, energy, nuclear, manufacturing and other industrial sectors, in order to design, manage and implement research and innovation projects and to contribute to the design and implementation of new and complex products and processes. Finally, the purpose of the course of study offered with this doctoral course is also to train the skills to operate in international and multidisciplinary contexts. In general terms, and for various educational aspects, the PhD course also contributes to the pursuit of the following Sustainable Development Goals of the UN 2030 Agenda: 7 Clean and accessible energy; 9 Enterprise, innovation and infrastructure; 11 sustainable cities and communities; 12 Ensure sustainable models of production and consumption; 13 Fight against climate change.

2. Structure: the training and research programme includes:

- a) The implementation, under the guidance of one or more supervisors, of an individual research program initially proposed by the candidate, possibly redefined and updated, finally verified and approved by the DIMSAI Board, referring to a disciplinary area among those available at the PhD Course;
- b) Participation in teaching, training and dissemination activities complementary to the research activity, selected by the Candidate jointly with the Supervisor, for the achievement of at least 36 doctoral credits out of the 180 expected in the 3 years of the course. The training activities that lead to the recognition of credits concern:

- disciplinary, multidisciplinary and transdisciplinary courses expressly provided for the third cycle of training by the DIN Department or by other doctoral courses, including non-UniBo doctoral courses;
- transversal activities expressly provided by Unibo for the third cycle of training with the other doctorates such as, for example, language and computer skills, activities in the field of teaching, training in the field of management, dissemination and enhancement of research and intellectual property, knowledge of European and international research systems, open access to research data and products, the fundamental principles of ethics, gender equality and integrity also with reference to the professional outlets of PhDs;
- Conferences, summer schools, workshops, seminars, university courses in specific or complementary topics related to their research program;

c) The carrying out of a period abroad of at least 3 months, aimed at improving the level of internationalization of his/her research activity.

d) The carrying out of periods in the Company or in Universities or Research Centers (both Italian and foreign) in addition to the 3 months of the previous point.

e) The publication, in the three years of the Course, of at least 2 articles, preferably in Scientific Journals, or in indexed Conference proceedings. The continuous updating of the iris database (<https://cris.unibo.it/>) with the results of the research produced by the candidate.

f) The set-up and updating of their web page on the UniBo website and the annual fill out of the OPID questionnaires of the opinions of the doctoral students. Filling out of the Almalaurea questionnaire when uploading the final thesis.

g) The training project ends with the drafting of the final thesis written in Italian or English, evaluated by external reviewers and the subsequent discussion in front of a commission of expert members.

On the day of the start of the Doctoral cycle, the regulations and procedures for the recognition of credits are illustrated to the new PhD students together with other information and duties relevant to the development of their Doctoral course. This presentation is also made available on the PhD website.

The progress and adequacy of the training and research program is evaluated annually, together with the acquisition of the CDs and compliance with the additional duties, by the DIMSAI Board in the year evaluation meeting in which the following elements are analyzed:

- a report (Annual Report at the end of each year),
- a presentation (at the end of the second year)
- a discussion of the work done (at the end of the third year for admission to the final exam).

The templates of the annual reports are attached and are available in a fillable version on the PhD website.

The path of doctoral students is regulated by the **REGOLAMENTO DI ATENEO IN MATERIA DI CORSI DI DOTTORATO (UNIVERSITY REGULATIONS ON DOCTORAL COURSES)** available at the webpage <http://www.unibo.it/it/studiare/dottorati-master-specializzazioni-e-altra-formazione/dottorati/regolamento-dateneo-in-materia-di-dottorato>.

3. Doctoral Credits and their recognition: Doctoral Credits (CD) measure the workload required to the PhD student in research and training activities for the achievement of the degree. Each CD is worth 25 hours of commitment and the PhD student must obtain 60 CDs per year. The DIMSAI divides the total amount of CDs between research, training and teaching activities, requiring that the research activity be prevalent but not exceeding 80% of the total (144 CDs) and therefore providing for training and teaching activities equal to at least 20% (≥ 36 CDs) as shown in Table A. PhD students who, at the end of the doctoral course, have acquired a higher number of CDs for training and teaching than indicated in Table A, will have these CDs recognized in

excess of the theoretical 180. However, the Board will monitor that no imbalances occur that hinder the research activity of the PhD students.

Table A – Distribution of CDs between research, training and teaching		
Type of activity	Total number of CDs	%
Research activities	144	80
Training and teaching activities	36	20
Total	180	100

3.1-Doctoral Training and Teaching Credits

DIMSAI has defined the minimum value of CDs to be achieved for each of the following activities (Table B):

- vi. disciplinary and multidisciplinary training,
- vii. training related to the acquisition of transversal skills,
- viii. extra-curricular training for the growth of PhD students as members of a scientific community (summer school, participation in conferences as an auditor, PhD symposia, etc.),
- ix. dissemination of research results,
- x. teaching and tutoring.

Table B – Requirements for the distribution of CDs between training and teaching activities		
Type of activity	Minimum number of CDs	Maximum number of CDs
Disciplinary and multidisciplinary training	6	-
Soft skills	1	-
Extracurricular training	1	-
Dissemination	2	-
Teaching and Tutoring	1	9

The Course has also defined the recommended number of CDs to be acquired for training, dissemination and teaching in each year of the course, in order to ensure the balanced performance of these activities with respect to those of research (table C). This table also shows the minimum doctoral credits that a PhD student must obtain in order to be admitted, during the annual assessment, to the following year.

Table C – CD for training and teaching to be acquired in the various years of the course		
Training and teaching CDs to be acquired	Recommended	Minimum
at the end of the 1st year	18	0
at the end of the 2nd year	30	12
at the end of the 3rd year	36	36

PhD students, in agreement with their supervisors and co-supervisors, flexibly define their specific training and research paths, choosing the activities to be carried out, by type and quantity, in compliance with the constraints established by the Board for each activity and year of the course.

For the recognition of training, dissemination and teaching activities, the DIMSAI Board will use the following criteria (Table D):

Table D – Correspondence between hours of effort and CDs acquired

Type of activity	Hours in the classroom	Hours of self-study	Total hours	CDs
vi. Courses (disciplinary and multidisciplinary training)				
<p>Courses (with learning verification) It includes, for example:</p> <ul style="list-style-type: none"> • 3rd level courses PhD@DIN • 3rd level courses other PhD (also non-UniBo) • Seminars as part of a course (seminar cycle, with verification) • UNIBO training courses with final exam (e.g. ACEs) • Doctoral schools / Summer School / Winter school (with verification) • 1st and 2nd level courses not taken in the career (even non-UniBo) with passing the final exam <p><small>To be recognized, the following is required: copy of the certificate of attendance of at least 75% of the hours and of the grade/eligibility obtained.</small></p>	5	20	25	1
<p>Theoretical-practical laboratory courses (with verification of learning) example: courses that include the practical use of instrumentation, machinery, software but which also provide theoretical training (e.g. MATLAB course, PYTHON course, etc.)</p> <p><small>To be recognized, the following is required: copy of the certificate of attendance of at least 75% of the hours and of the grade/eligibility obtained.</small></p>	5	20	25	1
<p>Practical laboratory courses (with verification of learning) Example: courses for the use of instrumentation, machinery, software without the theoretical training part</p> <p><small>To be recognized, the following is required: copy of the certificate of attendance of at least 75% of the hours and of the grade/eligibility obtained.</small></p>	10	15	25	1
<p>Courses (without learning verification) It includes, for example:</p> <ul style="list-style-type: none"> • Individual seminars (not in the context of a course with verification) • UNIBO training courses without final exam • Extra-curricular courses • 1st and 2nd level courses not taken in the career (even non-UniBo) without final exam <p><small>To be recognized, the following is required: copy of the certificate of attendance with certification of attendance of at least 75% of the hours.</small></p>	25	-	25	1
vii. Soft skills				
<p>Courses for the development of transversal skills (with learning verification) It includes, for example, non-PhD@DIN courses on topics such as:</p>	5	20	25	1

<ul style="list-style-type: none"> • Career guidance and career planning • Knowledge of European and international research systems • Teaching training • Dissemination and publication training • Courses on transversal skills for doctoral <p>To be recognized, the following is required: copy of the certificate of attendance of at least 75% of the hours and of the grade/eligibility obtained.</p>				
<p>Courses for the development of soft skills (without learning verification)</p> <p>It includes, for example, non-PhD@DIN courses on topics such as:</p> <ul style="list-style-type: none"> • Career guidance and career planning • Knowledge of European and international research systems • Teaching training • Dissemination and publication training • Courses on transversal skills for doctoral <p>To be recognized, the following is required: copy of the certificate of attendance with certification of attendance of at least 75% of the hours.</p>	25	0	25	1
viii. Extracurricular training				
<p>Participation in conferences and summer/winter schools</p> <p>It includes, for example:</p> <ul style="list-style-type: none"> • Participation in a conference without presentation of a paper, or chairing or passive participation in discussion panels • Doctoral schools / Summer School / Winter school (without verification) • PhD symposia <p>To be recognized, the following are required: copy of the request for reimbursement of the mission and copy of the certificate of participation</p>	1 day (8h "frontal" of the event)	-	8	0,3
ix. Dissemination				
<p>Active dissemination of the results of one's own research</p> <p>It includes, for example:</p> <ul style="list-style-type: none"> • Participation in a conference with presentation of at least one paper • Participation in a conference with active participation in a discussion panel / session chairing <p><u>It does NOT include:</u></p> <ul style="list-style-type: none"> • Preparation and publication of journal articles • Co-authorship of contribution to conference presented by others <p>To be recognized, the following are required: copy of the mission reimbursement request, copy of the certificate of participation and presentation of the work (or conference program with the presenters explicit).</p>	1 day (8h "frontal" of the event)	4 h	12	0,5
x. Supplementary teaching and tutoring*				
<p>Tutoring*</p> <p>Includes:</p>	10h contract	15h	25	1

<ul style="list-style-type: none"> Tutoring contracts or grants at UniBo authorized by the Board Tutoring or teaching contracts/grants at other universities/institutions authorized by the Board <p>To be recognized, the following is required: tutoring contract with indication of the hours of assignment.</p>				
<p>Thesis tutoring*</p> <p>The candidate must be the single doctoral student co-supervisor of the thesis (more than one co-supervisor is possible but must be a single doctoral student)</p> <p>To be recognized, the following is required: screen of thesis deposit on lauree.unibo.it</p>	N/A	N/A	For each thesis	1
<p>Teaching*</p> <p>Contracts for paid teaching previously authorized by the tutor and the board</p> <p>To be recognized, the following is required: teaching assignment contract with indication of teaching hours</p>	5 h contract / teaching	20 h	25	1
Other authorized activities				
<p>Activities authorized by the College</p> <p>It includes, for example:</p> <ul style="list-style-type: none"> Work Activities not attributable to training activities Periods abroad Periods in Companies/Institutions/Universities 	N/A	N/A	0	0

NOTE 1: For activities in which the organizer explicitly defines ECTS/CFU/CD according to a scheme that complies with the general criteria, the recognition of the proposed CDs will normally be considered, even in derogation from the criteria in the table.

NOTE 2: The attribution of fractions of credits, based on the number of actual hours of the activity to be recognized, is carried out with a criterion of proportion with rounding to one decimal place (e.g. 31 hours of course without verification = 1.2 CD).

NOTE 3: The activities * Supplementary teaching and tutoring (Tutoring, Thesis Tutoring and Teaching) cannot exceed a total of 9 CDs (25% of the training CDs)

NOTE 4: The duration of the dissemination and extracurricular activities will be considered including the transfer (e.g. passive conference in the USA of 3 days + 2 days for the transfer = 5 days)

3.2-Doctoral Research Credits

Doctoral Research credits will be recognized annually as a complement to 60 of the Training and Teaching credits in the event of a positive evaluation of the Annual Report and related duties.

Doctoral students are required to carry out, during the duration of the doctoral programme, a period of research at least **3 MONTHS** in a foreign location including universities, research centers, organizations or companies. This period may be non-continuous (but each period must be longer than a month to be able to access the 50% salary increase) and the obligation can only be waived for reasons of force majeure, such as illness, maternity/paternity or other similar reasons. Approval of the exemption request is decided by the DIMSAI Board.

As a criterion for the evaluation of the congruity and quality of the research activities carried out, each candidate is required to publish, during the duration of the doctoral course, at least **2 articles**, preferably in Scientific Journals, or in indexed Conference proceedings. PhD students are also required to keep the iris (<https://cris.unibo.it/>) database updated with the results of the research activity.

Finally, PhD students are suggested to carry out a total period of at least 6 months outside Unibo (6 months including the period abroad, then a further 3 months in the case of a period abroad of 3 months) at National and International Companies or Universities or Research Centers and to keep track of these periods to be reported annually in the Annual Report. This additional period can also be carried out - with or without continuity - in the same location where the period abroad is carried out.

Further obligations of candidates are:

- Set-up of the personal UniBo web page (i.e. <https://www.unibo.it/sitoweb/l.donati/>) at the beginning of the doctoral course and its updating;
- Yearly fill in of the OPID questionnaires (opinion of doctoral students) and of the AlmaLaurea questionnaire when uploading the final doctoral thesis.

Candidates who have not obtained the required CDs or have not complied with the additional duties in terms of period abroad, publications, OPID questionnaires or updating of UniBo databases and webpages, will be denied the admission to the following year or to the final exam.

4. Attachments

4.1 Template Report I year (downloadable in word format from DIMSAI website)

PhD Course in Mechanics and Advanced Engineering Sciences (DIMSAI)

I YEAR PHD STUDENT REPORT - AY XXXX/XX

Curriculum number X

Cycle XXX

Candidate: Name Surname

Supervisor: Name Surname

RESEARCH PROJECT TITLE

Abstract (200 words max)

[Use the following sections, if applicable, and use **no more than 5 pages -mandatory limit-**]

1. **Introduction and aim**
2. **Experimental procedure**
3. **Results and discussion**
4. **Conclusions**
5. **Planning of research activity for the next year**
6. **References**

[The following sections are not comprised in the 5-page limit]

- I declare to have updated my Unibo personal page (i.e. www.unibo.it/sitoweb/l.donati/) at least with CV, ORCID code and a photo;
- I declare to have filled in and submitted on time the OPID questioner.

PUBLISHED PUBLICATIONS (list your papers/abstracts in peer reviewed journals and in proceedings of international and national conferences, patents, etc.; mandatory request more than 2 indexed publications during the 3 years course) in the form:

I year:

1. Authors, Paper Title, Journal Name, Year, Vol, pages, DOI or Scopus/Wos code; iris reference;
 2. Authors, Paper Title, Conference Name, Place, Country, Year, Vol, pages, Doi or Scopus/Wos code; iris reference;
- I declare to have updated iris database (<https://cris.unibo.it/>) with the research publications.

RESEARCH CONDUCTED ABROAD (describe any research period out of Italy, already performed and completed during the I year of the doctorate, including location, duration, advisor, research topic as reported to PhD offices; mandatory request over 3 months during the 3 years course):

1. Example: Siemens Company, Munchen, Germany; January 21st 2025-March 25th 2025, Department/Laboratory of Magnetic Research, supervisor prof. Klaus Hofferback. "Magnetic field distribution in phase hardening alloys" **Months abroad: 2.1**
2. Example: Virginia Tech University, Blacksburg, Virginia, USA; May 7th 2025-July 15th 2025, Department/Laboratory of Material development, supervisor prof. Edmund Smith. "Hydrogen corrosion investigation on Ti alloys"; **Months abroad: 2.3**

RESEARCH PERIOD CONDUCTED IN ITALY OUTSIDE UNIBO (describe any research period in Italy but out of UniBo -i.e. Companies, Research centers, other Universities-, already performed and completed during

the 1 year of the doctorate, including location, duration, advisor; suggested over 6 months outside UniBo - including the research period conducted abroad- during the 3 years course):

Period in Italy outside UniBo (Company, Universities or Research centers)			
<i>Example: Period in Marcegaglia Company, Bergamo, Italy</i>	<i>Marcegaglia plant, Vicenza, QA Laboratory, supervisor. Dott. Fabio Agiletti</i>	<i>Period in Italy outside UniBo</i>	<i>20 not continuative days in the period 1 November 2024-31 August 2025</i>
Total Period in Italy outside UniBo (days)			20
Total Period in Italy outside UniBo (months)			0.7
Research Period Abroad (mandatory ≥3 months in the 3 years)			4.4
Total Period outside UniBo (suggested ≥6 months in the 3 years)			5.1

NOTE: 1 month equal to 30 days

EDUCATION AND TRAINING CREDITS: (describe the courses, seminars or training activities you attended during the 1 year of the doctorate indicating for each activity its name, type, location, duration and associated CD; please use the following table as template and “Regulation for the recognition of doctoral credits (CD) for training and research activities” document for definitions and credit recognition)

NAME	TYPE & LOCATION	TYPE OF ACTIVITY	DURATION	CD
i. Courses (disciplinary and multidisciplinary training)				
<i>Example: ‘Machine mechanics’</i>	<i>Master course with final examination, at UniBo</i>	<i>Courses</i>	<i>60h, 6 official ECTS</i>	<i>(6 ECTS recognized)= 6.0</i>
<i>Example: ‘Machine dynamics’</i>	<i>Master course without final examination, at UniBo</i>	<i>Courses</i>	<i>60h, 6 official ECTS if taken with examination</i>	<i>(60h/25)= 2.4</i>
<i>Example: ‘Design of Experiments: theory and applications’</i>	<i>PhD course with final examination, at UniBo</i>	<i>Courses</i>	<i>12h, no official ECTS</i>	<i>(12h/5)= 2.4</i>
<i>Example: ‘Artificial Intelligence: theory and applications’</i>	<i>PhD course with final examination, at TU Dortmund</i>	<i>Courses</i>	<i>30h, no official ECTS</i>	<i>(30h/5)= 6.0</i>
Total Credits (>6CD in the three years)				16.8
ii. Transferable Skills (Competenze Trasversali)				
<i>Example: ‘English course AcES</i>	<i>English course for PhD students in transferable skills UniBo plan</i>	<i>Transferable Skills</i>	<i>50h, 5 ECTS</i>	<i>5 ECTS recognized, 5.0</i>
Total Credits (>1CD in the three years)				5.0
iii. Extracurricular training				
<i>Example: ‘International symposium on plasma chemistry’ attendance only</i>	<i>International conference, Kyoto, Japan</i>	<i>Extracurricular training</i>	<i>5 days -including travelling-</i>	<i>(5x8/25)= 1.6</i>
<i>Example: Summer school ‘AI data management’</i>	<i>Summer School without final examination, Rome, Italy</i>	<i>Extracurricular training</i>	<i>5 days -including travelling-, 32h, no official ECTS</i>	<i>(5x8/25)= 1.6</i>
<i>Example: Summer school ‘AI data management’</i>	<i>Summer School with final examination, Rome, Italy</i>	<i>Extra curricular training or Courses</i>	<i>5 days -including travelling-, 32h, 3 official ECTS</i>	<i>Max among (5x8/25)= 1.6 and 3 ECTS, 3.0</i>
Total Credits (>1CD in the three years)				6.2

iv. Dissemination				
<i>Example: Paper presentation at 'International symposium on plasma chemistry'</i>	<i>International conference Kyoto, Japan</i>	<i>Dissemination</i>	<i>5 days -including travelling-</i>	<i>(5x12/25)= 2.4</i>
Total Credits (>2CD in the three years)				2.4
v. Teaching and Tutoring				
<i>Example: Co-supervisor in master thesis</i>	<i>Student: Francesco Bruni, master thesis, Meccanica Bo</i>	<i>Thesis Tutoring</i>		<i>1.0</i>
<i>Example: Tutoring contract</i>	<i>Course "Propulsione navale"</i>	<i>Tutoring contract</i>	<i>30h</i>	<i>(30/10)= 3.0</i>
<i>Example: Course Teaching</i>	<i>Corso ITS "Dal progetto al processo", Imola, Italy</i>	<i>Teaching contract</i>	<i>Teaching contract for 30 hours in class</i>	<i>(30/5)= 6.0</i>
Total Credits (>1CD in the three years, maximum of 9CD)				10.0 (9CD)
Total Credits acquired in the I year (recommended >18)				39,4

NOTE: The attribution of fractions of credit, based on the number of actual hours of the activity to be recognized, is carried out with a proportion criterion with rounding to one decimal place (e.g. 31h of course without assessment = 1.2 CD).

PROGRAM OF FUTURE EDUCATIONAL ACTIVITIES: describe the courses and seminars, in terms of course name, location, hours, ECTS, you plan to attend during the II and III years of the doctorate;

PLANNED RESEARCH ABROAD: if already defined, describe any planned research period out of UniBo, to be performed in the next course's months, including location, duration, advisor, main results expected.

Date ___/___/___

Candidate signature

Supervisor signature

4.2 Template Report II year (downloadable in word format from DIMSAI website)

PhD Course in Mechanics and Advanced Engineering Sciences (DIMSAI) II YEAR PHD STUDENT REPORT - AY XXXX/XX

Curriculum number X
Cycle XXX

Candidate: Name Surname
Supervisor: Name Surname

RESEARCH PROJECT TITLE

Abstract (200 words max)

[Use the following sections, if applicable, to the activities carried out in the II year and use **no more than 10 pages -mandatory limit-**]

7. Introduction and aim
8. Experimental procedure
9. Results and discussion
10. Conclusions
11. Planning of research activity for the next year
12. References

[The following text is not comprised in the 10-page limit]

- I declare to have updated my Unibo personal page (i.e. www.unibo.it/sitoweb/l.donati/) at least with CV, ORCID code and a photo;
- I declare to have filled in and submitted on time the II year OPID questioner.

PUBLISHED PUBLICATIONS (list your papers/abstracts in peer reviewed journals and in proceedings of international and national conferences, patents, etc.; mandatory request more than 2 indexed publications during the 3 years course) in the form:

I year:

3. Authors, Paper Title, Journal Name, Year, Vol, pages, DOI or Scopus/Wos code; iris reference;
4. Authors, Paper Title, Conference Name, Place, Country, Year, Vol, pages, Doi or Scopus/Wos code; iris reference;

II year:

5. Authors, Paper Title, Journal Name, Year, Vol, pages, DOI or Scopus/Wos code; iris reference;
6. Authors, Paper Title, Conference Name, Place, Country, Year, Vol, pages, Doi or Scopus/Wos code; iris reference;

- I declare to have updated iris database (<https://cris.unibo.it/>) with the research publications.

RESEARCH CONDUCTED ABROAD (describe any research period out of Italy, already performed and completed during the I and II year of the doctorate, including location, duration, advisor, research topic as reported to PhD offices; mandatory request over 3 months during the 3 years course):

3. Example: Siemens Company, Munchen, Germany; January 21st 2025-March 25th 2025, Department/Laboratory of Magnetic Research, supervisor prof. Klaus Hofferback. "Magnetic field distribution in phase hardening alloys"
Months abroad: 2.1
4. Example: Virginia Tech University, Blacksburg, Virginia, USA; May 7th 2025-July 15th 2025, Department/Laboratory of Material development, supervisor prof. Edmund Smith. "Hydrogen corrosion investigation on Ti alloys";
Months abroad: 2.3

RESEARCH PERIOD CONDUCTED IN ITALY OUTSIDE UNIBO (describe any research period in Italy but out of UniBo -i.e. Companies, Research centers, other Universities-, already performed and completed during the I and II year of the doctorate, including location, duration, advisor; suggested over 6 months outside UniBo -including the research period conducted abroad- during the 3 years course):

Period in Italy outside Unibo (Company, Universities or Research centers)			
<i>Example: Period in Marcegaglia Company, Bergamo, Italy</i>	<i>Mrcegaglia plant, Vicenza, QA Laboratory, supervisor. Dott. Fabio Agiletti</i>	<i>Period in Italy outside Unibo</i>	<i>20 not continuative days in the period 1 November 2024-31 August 2025</i>
<i>Example: Period at ENEA, Bologna, Italy</i>	<i>Period in Italy in Company, Universities or Research centers,</i>	<i>Period in Italy outside Unibo</i>	<i>25 not continuative days in the period 1 September 2025-31 August 2026</i>
Total Period in Italy outside Unibo (days)			45
Total Period in Italy outside Unibo (months)			1.5
Research Period Abroad (mandatory ≥3 months in the 3 years)			4.4
Total Period outside UniBo (suggested ≥6 months in the 3 years)			5.9

NOTE: 1 month equal to 30 days

EDUCATION AND TRAINING CREDITS: (describe the courses, seminars or training activities you attended during the I and II year of the doctorate indicating for each activity its name, type, location, duration and associated CD; please use the following table as template and “Regulation for the recognition of doctoral credits (CD) for training and research activities” document for definitions and credit recognition)

NAME	TYPE & LOCATION	TYPE OF ACTIVITY	DURATION	CD
vi. Courses (disciplinary and multidisciplinary training)				
<i>Example: 'Machine mechanics'</i>	<i>Master course with final examination, at UniBo</i>	<i>Courses</i>	<i>60h, 6 official ECTS</i>	<i>(6 ECTS recognized)= 6.0</i>
<i>Example: 'Machine dynamics'</i>	<i>Master course without final examination, at UniBo</i>	<i>Courses</i>	<i>60h, 6 official ECTS if taken with examination</i>	<i>(60h/25)= 2.4</i>
<i>Example: 'Design of Experiments: theory and applications'</i>	<i>PhD course with final examination, at UniBo</i>	<i>Courses</i>	<i>12h, no official ECTS</i>	<i>(12h/5)= 2.4</i>
<i>Example: 'Artificial Intelligence: theory and applications'</i>	<i>PhD course with final examination, at TU Dortmund</i>	<i>Courses</i>	<i>30h, no official ECTS</i>	<i>(30h/5)= 6.0</i>
Total Credits (>6CD in the three years)				16.8
vii. Transferable Skills (Competenze Trasversali)				
<i>Example: 'English course AcES</i>	<i>English course for PhD students in transferable skills UniBo plan</i>	<i>Transferable Skills</i>	<i>50h, 5 ECTS</i>	<i>5 ECTS recognized, 5.0</i>
Total Credits (>1CD in the three years)				5.0
viii. Extracurricular training				
<i>Example: 'International symposium on plasma chemistry' attendance only</i>	<i>International conference, Kyoto, Japan</i>	<i>Extracurricular training</i>	<i>5 days -including travelling-</i>	<i>(5x8/25)= 1.6</i>

<i>Example: Summer school 'AI data management'</i>	<i>Summer School without final examination, Rome, Italy</i>	<i>Extracurricular training</i>	<i>5 days -including travelling-, 32h, no official ECTS</i>	<i>(5x8/25)= 1.6</i>
<i>Example: Summer school 'AI data management'</i>	<i>Summer School with final examination, Rome, Italy</i>	<i>Extra curricular training or Courses</i>	<i>5 days -including travelling-, 32h, 3 official ECTS</i>	<i>Max among (5x8/25)= 1.6 and 3 ECTS, 3.0</i>
Total Credits (>1CD in the three years)				6.2
ix. Dissemination				
<i>Example: Paper presentation at 'International symposium on plasma chemistry'</i>	<i>International conference Kyoto, Japan</i>	<i>Dissemination</i>	<i>5 days -including travelling-</i>	<i>(5x12/25)= 2.4</i>
Total Credits (>2CD in the three years)				2.4
x. Teaching and Tutoring				
<i>Example: Co-supervisor in master thesis</i>	<i>Student: Francesco Bruni, master thesis, Meccanica Bo</i>	<i>Thesis Tutoring</i>		<i>1.0</i>
<i>Example: Tutoring contract</i>	<i>Course "Propulsione navale"</i>	<i>Tutoring contract</i>	<i>30h</i>	<i>(30/10)= 3.0</i>
<i>Example: Course Teaching</i>	<i>Corso ITS "Dal progetto al processo", Imola, Italy</i>	<i>Teaching contract</i>	<i>Teaching contract for 30 hours in class</i>	<i>(30/5)= 6.0</i>
Total Credits (>1CD in the three years, maximum of 9CD)				10.0 (9CD)
Total Credits acquired in the I and II year (recommended >30)				39,4

NOTE: The attribution of fractions of credit, based on the number of actual hours of the activity to be recognized, is carried out with a proportion criterion with rounding to one decimal place (e.g. 31h of course without assessment = 1.2 CD).

PROGRAM OF FUTURE EDUCATIONAL ACTIVITIES: describe the courses and seminars, in terms of course name, location, hours, ECTS, you plan to attend during the III years of the doctorate;

PLANNED RESEARCH ABROAD: if already defined, describe any planned research period out of UniBo, to be performed in the next course's months, including location, duration, advisor, main results expected.

Date ___/___/___

Candidate signature

Supervisor signature

4.3 Template Report III year (downloadable in word format from DIMSAI website)

PhD Course in Mechanics and Advanced Engineering Sciences (DIMSAI)

III YEAR PHD STUDENT REPORT - AY XXXX/XX

Curriculum number X
Cycle XXX

Candidate: Name Surname
Supervisor: Name Surname

RESEARCH PROJECT TITLE

Abstract (200 words max)

[Use the following sections, if applicable, to the activities carried out in the 3 years with a focus on the III year and use **no more than 10 pages -mandatory limit-**]

- 13. Introduction and aim
- 14. Experimental procedure
- 15. Results and discussion
- 16. Conclusions
- 17. References

[The following text is not comprised in the 10-page limit]

- I declare to have updated my Unibo personal page (i.e. www.unibo.it/sitoweb/l.donati/) at least with CV, ORCID code and a photo;
- I declare to have filled in and submitted on time the III year OPID questioner.

PUBLISHED PUBLICATIONS (list your papers/abstracts in peer reviewed journals and in proceedings of international and national conferences, patents, etc.; mandatory request more than 2 indexed publications during the 3 years course) in the form:

I year:

- 7. Authors, Paper Title, Journal Name, Year, Vol, pages, DOI or Scopus/Wos code; iris reference;
- 8. Authors, Paper Title, Conference Name, Place, Country, Year, Vol, pages, Doi or Scopus/Wos code; iris reference;

II year:

- 9. Authors, Paper Title, Journal Name, Year, Vol, pages, DOI or Scopus/Wos code; iris reference;
- 10. Authors, Paper Title, Conference Name, Place, Country, Year, Vol, pages, Doi or Scopus/Wos code; iris reference;

III year:

- 11. Authors, Paper Title, Journal Name, Year, Vol, pages, DOI or Scopus/Wos code; iris reference;
- 12. Authors, Paper Title, Conference Name, Place, Country, Year, Vol, pages, Doi or Scopus/Wos code; iris reference;

- I declare to have updated iris database (<https://cris.unibo.it/>) with the research publications.

RESEARCH CONDUCTED ABROAD (describe any research period out of Italy, already performed and completed during the 3 years of the doctorate, including location, duration, advisor, research topic as reported to PhD offices; mandatory request over 3 months during the 3 years course):

- 5. Example: Siemens Company, Munchen, Germany; January 21st 2025-March 25th 2025, Department/Laboratory of Magnetic Research, supervisor prof. Klaus Hofferback. "Magnetic field distribution in phase hardening alloys"
Months abroad: 2.1
- 6. Example: Virginia Tech University, Blacksburg, Virginia, USA; May 7th 2025-July 15th 2025, Department/Laboratory of Material development, supervisor prof. Edmund Smith. "Hydrogen corrosion

investigation

on

Ti

alloys”;

Months abroad: 2.3

RESEARCH PERIOD CONDUCTED IN ITALY OUTSIDE UNIBO (describe any research period in Italy but out of UniBo -i.e. Companies, Research centers, other Universities-, already performed and completed during the 3 years of the doctorate, including location, duration, advisor; suggested over 6 months outside Unibo - including the research period conducted abroad- during the 3 years course):

Period in Italy outside Unibo (Company, Universities or Research centers)			
<i>Example: Period in Marcegaglia Company, Bergamo, Italy</i>	<i>Mrcegaglia plant, Vicenza, QA Laboratory, supervisor. Dott. Fabio Agiletti</i>	<i>Period in Italy outside Unibo</i>	<i>20 not continuative days in the period 1 November 2024-31 August 2025</i>
<i>Example: Period at ENEA, Bologna, Italy</i>	<i>Period in Italy in Company, Universities or Research centers,</i>	<i>Period in Italy outside Unibo</i>	<i>25 not continuative days in the period 1 September 2025-31 August 2026</i>
<i>Example: Period at PoliTo, Torino, Italy</i>	<i>Period in Italy in Company, Universities or Research centers,</i>	<i>Period in Italy outside Unibo</i>	<i>15 not continuative days in the period 1 September 2026-31 August 2027</i>
Total Period in Italy outside Unibo (days)			60
Total Period in Italy outside Unibo (months)			2.0
Research Period Abroad (mandatory ≥3 months in the 3 years)			4.4
Total Period outside UniBo (suggested ≥6 months in the 3 years)			6.4

NOTE: 1 month equal to 30 days

EDUCATION AND TRAINING CREDITS: (describe the courses, seminars or training activities you attended during the 3 years of the doctorate indicating for each activity its name, type, location, duration and associated CD; please use the following table as template and “Regulation for the recognition of doctoral credits (CD) for training and research activities” document for definitions and credit recognition)

NAME	TYPE & LOCATION	TYPE OF ACTIVITY	DURATION	CD
xi. Courses (disciplinary and multidisciplinary training)				
<i>Example: 'Machine mechanics'</i>	<i>Master course with final examination, at UniBo</i>	<i>Courses</i>	<i>60h, 6 official ECTS</i>	<i>(6 ECTS recognized)= 6.0</i>
<i>Example: 'Machine dynamics'</i>	<i>Master course without final examination, at UniBo</i>	<i>Courses</i>	<i>60h, 6 official ECTS if taken with examination</i>	<i>(60h/25)= 2.4</i>
<i>Example: 'Design of Experiments: theory and applications'</i>	<i>PhD course with final examination, at UniBo</i>	<i>Courses</i>	<i>12h, no official ECTS</i>	<i>(12h/5)= 2.4</i>
<i>Example: 'Artificial Intelligence: theory and applications'</i>	<i>PhD course with final examination, at TU Dortmund</i>	<i>Courses</i>	<i>30h, no official ECTS</i>	<i>(30h/5)= 6.0</i>
Total Credits (>6CD in the three years)				16.8
xii. Transferable Skills (Competenze Trasversali)				
<i>Example: 'English course AcES'</i>	<i>English course for PhD students in transferable skills UniBo plan</i>	<i>Transferable Skills</i>	<i>50h, 5 ECTS</i>	<i>5 ECTS recognized, 5.0</i>
Total Credits (>1CD in the three years)				5.0

xiii. Extracurricular training				
<i>Example: 'International symposium on plasma chemistry' attendance only</i>	<i>International conference, Kyoto, Japan</i>	<i>Extracurricular training</i>	<i>5 days -including travelling-</i>	<i>(5x8/25)= 1.6</i>
<i>Example: Summer school 'AI data management'</i>	<i>Summer School without final examination, Rome, Italy</i>	<i>Extracurricular training</i>	<i>5 days -including travelling-, 32h, no official ECTS</i>	<i>(5x8/25)= 1.6</i>
<i>Example: Summer school 'AI data management'</i>	<i>Summer School with final examination, Rome, Italy</i>	<i>Extra curricular training or Courses</i>	<i>5 days -including travelling-, 32h, 3 official ECTS</i>	<i>Max among (5x8/25)= 1.6 and 3 ECTS, 3.0</i>
Total Credits (>1CD in the three years)				6.2
xiv. Dissemination				
<i>Example: Paper presentation at 'International symposium on plasma chemistry'</i>	<i>International conference Kyoto, Japan</i>	<i>Dissemination</i>	<i>5 days -including travelling-</i>	<i>(5x12/25)= 2.4</i>
Total Credits (>2CD in the three years)				2.4
xv. Teaching and Tutoring				
<i>Example: Co-supervisor in master thesis</i>	<i>Student: Francesco Bruni, master thesis, Meccanica Bo</i>	<i>Thesis Tutoring</i>		<i>1.0</i>
<i>Example: Tutoring contract</i>	<i>Course "Propulsione navale"</i>	<i>Tutoring contract</i>	<i>30h</i>	<i>(30/10)= 3.0</i>
<i>Example: Course Teaching</i>	<i>Corso ITS "Dal progetto al processo", Imola, Italy</i>	<i>Teaching contract</i>	<i>Teaching contract for 30 hours in class</i>	<i>(30/5)= 6.0</i>
Total Credits (>1CD in the three years, maximum of 9CD)				10.0 (9CD)
Total Credits acquired in the 3 years (≥36)				39,4

NOTE: The attribution of fractions of credit, based on the number of actual hours of the activity to be recognized, is carried out with a proportion criterion with rounding to one decimal place (e.g. 31h of course without assessment = 1.2 CD).

MISSING TRAINING ACTIVITIES, PUBLICATIONS OR RESEARCH PERIODS ABROAD: in reasonable conditions, the doctoral student should have already carried out all training activities, publications or research periods abroad before this "admission to the final exam" phase; in case of minor delays, recoverable by October 31th, provide a description of the recovery plan here. In the event of significant delays, please contact the program coordinator together with your supervisor.

Date ___/___/___

Candidate signature

Supervisor signature