

Code	Dipartimento	Direzione	Servizio	Titolo	Description	Tutor ISTAT	Required prerequisites for the candidate	Tutoring available in english	Internship headquarters
1	DGEN	DCRU	CRS	Management of procedures for National Experts seconded to the European Commission (SNE)	Opportunity to participate in the activities foreseen for the Istat contact point for Seconded National Experts (SNE), a structure responsible for pre-selecting, following and re-entering of SNEs as well as similar figures such as national experts seconded for free and structural interns at the European Institutions. In particular, the trainee will have the opportunity to follow the following activities: a) definition of priority employment areas; b) sensitization of the decision-making centers so that they perceive the advantage deriving from the use of the institute; c) dissemination of information on the vacancy specifying the internal procedures for issuing the authorization for any secondment; d) training of personnel on the SNEs; e) rise of staff awareness and identification of qualified profiles to be able to apply; f) contact with SNEs during their service in Brussels; g) reintegration of the SNEs so as to enhance their experience, guaranteeing an effective return of the costs incurred during the secondment; h) establishment of a database of potential qualified candidates, already trained both in terms of competences in community matters and in terms of language skills.	Pierpaolo Zimbo	Knowledge of English and preferably of another EC language	YES	Roma - Via Balbo 39
2	DGEN	DCRU	RCD	Labor law: labor litigation and disciplinary procedures in public employment	The internship aims to facilitate professional choices by acquiring notions of labor law and applying them to labor disputes and disciplinary proceedings. The objective is to learn operationally the activities related to the various phases of the aforementioned procedures and to investigate particularly complex issues such as the relationship between confidentiality and transparency in the disciplinary proceedings and between disciplinary and managerial responsibility.	Sara D'Amario	Knowledge of the Office package	NO	Roma - Via Balbo 39
3	DGEN	DCRU	RCD	Labor law: conferment of management positions and obligations arising from Legislative Decree no. 33/2013 and by Legislative Decree n. 39/2013	The internship aims to facilitate professional choices through the acquisition of notions of labor law and the application of the same in the public sector, in particular the conferment of managerial positions. The objective is to learn operationally the activities relating to the various phases of the aforementioned procedure and the legal obligations provided for by the anti-corruption legislation.	Simona Peia	Knowledge of the Office package	NO	Roma - Via Balbo 39
4	DGEN	DCRU	RCD	Access to the public administration: from the planning of requirements to the individual employment contract	The internship aims to facilitate professional choices through direct knowledge of the world of work, this through the acquisition of particular knowledge in the field of labor law and aspects relating to the responsibilities of public employees, with particular reference to disciplinary responsibility. The specific objective is to learn operationally the path, outlined by the relative regulations, that the PPA on the one hand, and the candidates on the other, must follow to access the public administration.	Michele Dominici		YES	Roma - Via Balbo 39
5	DGEN	DCRU	Staff	Methods for mapping organizational / administrative processes	The internship concerns the methodology of action to carry out the analysis, the elaboration and the definition of a concrete process map. The internship will cover the ordinary administrative institutional activity within the Central Human Resources Department defined as "that part of activity that has a permanent, recurring or continuous nature and that has as its purpose the functioning of the organization". The internship will specifically cover the mapping of processes including the set of techniques used to "identify" and "represent" the organizational / administrative processes, in their interrelations with other processes and in their internal components. Then process analysis, defined as "a series of activities that, pursuing a common purpose, following specific methods (procedures, instructions and software) and respecting specific constraints (rules, regulations, etc.) use resources to transform an input into an output, adding value, and analysis of all the processes (macro-process) that contribute to the same objective / purpose and that include all the planning, management, monitoring and verification activities related to the achievement of the organizational / administrative objective.	Andrea Braghin	Good knowledge of basic computer packages (word, excel). The knowledge of specific software for the realization of flows and diagrams is appreciated. Discrete theoretical knowledge about work organizations.	YES	Roma - Via Balbo 39
6	DGEN	DCRU	Staff	Application of Risk Management in the Public Administration, with particular reference to research institutions	The internship is designed to deepen the methodology for implementing a Risk Management system in a public administration, starting from the system adopted by the Institute. The internship will cover both the aspects of formulation and practical application.	Fabrizio Rotundi	Internship reserved for undergraduates in economics	YES	Roma - Via Balbo 39
7	DGEN	DGEN	CDG	Internal communication	Introduce the trainee to the objectives of internal communication and to the management and development of dedicated tools: Intranet, newsletters, events	Cristiana Conti	Fluidity in writing; good general knowledge; knowledge of the Microsoft office package; interpersonal skills	NO	Roma - Via Balbo 16
8	DGEN	DGEN	CDG	Safety management system	Basic training on OHSAS 18001 and UNI ISO 45001 standards that can be used for professional acquisition in the field of health and safety and international regulatory standards. Support for filling in system forms and indicators reporting	Giovanni Melardi		NO	Roma - Via Balbo 16
9	DIPS	DCAT	ATA	Statistics for sustainable development	Analyze statistics for the measurement of SDGs and consider the interconnected issues	Angela Ferruzza	Theoretical knowledge of economics or statistics or social statistics or environmental statistics	YES	Roma - Piazza Marconi 26/c
10	DIPS	DCAT	ATA	Statistics for climate change, extreme events and disasters	Analyze and develop the Recommendations related to Statistics for climate change, extreme events and disasters	Angela Ferruzza, Giovanna Tagliacozzo	Theoretical knowledge of economics or statistics or social statistics or environmental statistics	YES	Roma - Piazza Marconi 26/c
11	DIPS	DCAT	ATA	Use of GIS and WebGIS tools in the production, analysis and statistical dissemination processes	The purpose of the internship is to deepen the theoretical and practical aspects related to the implementation of the integration of geographical and statistical information. The goal is to create re-usable use cases oriented to data analysis. The infrastructure of the Geographic Information System for Statistics (GISTAT) will be supported by Istat technicians and researchers. Particular interest will be placed in the geo-referencing of statistical data up to the municipal level (and where possible sub-municipal) and with priority on medical statistics.	Pina Grazia Ticca	Basic knowledge of GIS concepts and related software, both in desktop and web environment. Familiarity with the concepts of statistics georeferencing. Basic computer skills (database, Office, Excel, HTML).	YES	Roma - Piazza Marconi 26/c
12	DIPS	DCAT	ATA	Geographical analysis of localities and micro-zones	With the new perimeter of the micro-zones, new possible uses and prospective analyzes of the use and coverage of the Italian territory are opened. Once the specific competence on the information layer of the micro-zones has been acquired, the need is to analyze the evolution of the localities, starting from those designed for the last three traditional censuses, and to evaluate the variation of the anthropic use of the soil. The analysis can also be carried out using additional information layers as support objects to territorial statistics.	Fabio Lipizzi	Knowledge of GIS software and of the main statistical data analysis techniques	NO	Roma - Piazza Marconi 26/c
13	DIPS	DCAT	ATB	Electoral geographies: quality indicators to support the design of constituencies	Implementation of indicators to measure the homogeneity of the territorial areas, functional to the optimization of the design of the constituencies; comparative analysis applied to case studies	Alessandra Ferrara	Knowledge of the main methodologies for measuring variability and heterogeneity. Knowledge of SW for statistical analysis. Experience in the analysis of spatial data on municipal and sub-municipal scale	YES	Roma - Viale Liegi 13
14	DIPS	DCAT	ATB	Metropolitan areas: methods for defining and describing urban contexts	Selection and construction of indicators for the perimeter of metropolitan areas; measures of distribution of settlements, urban functions, networks and functional relations	Alessandra Ferrara	Knowledge of the main methods of spatial analysis and GIS sw	YES	Roma - Viale Liegi 13
15	DIPS	DCAT	ATB	Update of the model for estimating withdrawals and water consumption in production activities	The objective of the internship is the development and updating of a model for estimating the collection and use of water for economic activity (NACE) by industry at national, regional and river basin district level. The model uses information from both Istat and other sources, including non-statistical ones.	Stefano Tersigni	Basic knowledge of statistics; use of R and / or SAS	NO	Roma - Viale Liegi 13
16	DIPS	DCAT	ATB	Comparison of port cities: territorial analysis and site development	The purpose of the internship course is the in-depth use of Istat data on maritime transport. The trainee will analyze the data that detects the goods that are transported in Italian ports and the passengers boarded and landed. The objective is to analyze a territorial reality that is mainly based on an economy deriving from the sea, considering the critical points and the turning points for the growth of that territory.	Norina Salamone	It is necessary to have good skills in computer software, office packages, knowledge of programming languages such as SAS, R or Oracle. Good skills in data analysis techniques. Preferably graduates in statistics or economics will be welcomed (with priority for students who have opted for the "maritime economy" address)	NO	Roma - Viale Liegi 13
17	DIPS	DCAT	ATC	Forest statistics: characteristics and activities of forestry companies	Deepen the study of the typological characteristics and the main activities carried out by forestry companies in Italy, in particular with regard to forest harvesting. Identify the population of forestry companies or those that carry out forestry activities on the basis of administrative / statistical registers; study and eventually implement statistical methodologies for the quantification of forest withdrawals.	Giovanni Seri	Knowledge in statistics, economics, agro-economic, forestry or similar sciences - basic knowledge of statistics - good knowledge of Microsoft Office tools and possibly some statistical analysis tools	NO	Roma - Piazza Marconi 26/c
18	DIPS	DCCN	CNB	Study of sources on eco-industries	Study for the expansion of information sources used for the compilation of eco-industries accounts (environmental goods and services sector) within the European environmental economic accounts. The internship is aimed at finding information sources on the activities of production of goods and services whose purpose is the protection of the environment and the management of natural resources. The trainee will have to explore the supply of information from institutional and non-institutional subjects, evaluating the potential of the information available for the purposes of estimating the account of environmental goods and services, regulated by Community Regulations.	Federica Battellini	Knowledge of advanced excel and base SAS. Online research skills	YES	Roma - Via Deprestis 74/B
19	DIPS	DCCN	CNB	Methods for studying the illegal economy	Study to update and expand administrative sources aimed at estimating phenomena related to economic criminality	Antonella Baldassarini	SAS skills and theoretical knowledge on the criminal economy		Roma - Via Deprestis 74/B
20	DIPS	DCCN	CNC	Financial transactions in public finance	Development of an integrated database on flows coming from the European Union within the Structural Funds and on the corresponding national co-financing amounts. Focus on the type of final beneficiary and analysis of cash flows in the budgets of public bodies affected by the phenomenon.	Ludovico Bracci Testasecca		NO	Roma - Via Deprestis 74/B
21	DIPS	DCCN	CNC	Study, analysis and classification of Public-Private Partnership (PPP) contracts	Operational collaboration for the estimation of public investments related to PPP, for the purpose of producing the consolidated public administration account and for compiling Table 11 of the questionnaire attached to the "EDP notification" to Eurostat. The main objective will be to complete the risk allocation analysis in PPP contracts by acquiring methods and tools for classifying this type of contract. The main tool used will be the risk matrix as structured in the EPEC-EUROSTAT Guide.	Giovanna Ottaviani	Public Procurement knowledge including traditional procurement procedures and the Public Private Partnership; the candidate must also have knowledge of national and European budgets and accounting standards.	NO	Roma - Via Deprestis 74/B
22	DIPS	DCCN	CND	Study of the sources for the deflation of the aggregates of the non-market sector and in particular of the health branch	Recognition and study of new information sources to be used for deflation of the health branch. In particular we will explore the possibility of using the data coming from the new health card.	Andrea Passacatilli		NO	Roma - Via Deprestis 74/B

23	DIPS	DCSE	SED	From production to analysis - ISTAT data	The internship consists of a training experience aimed at making the trainee aware of some of the economic statistics on ISTAT companies (quantitative and qualitative), in order to develop the capacity to acquire and process data, also with a view to comparing the various surveys, providing the trainee himself with the necessary tools to understand and monitor the performance of the Italian economy.	Patrizia Margani		NO	Roma - Via Tuscolana 1788
24	DIPS	DCSS	SSA	Descriptive and multilevel analysis on the harmonized survey on the use of ICT by families and individuals and on the "Aspects of daily life" survey	The internship pathway analyzes the relationships between the use of sharing economy platforms by individuals with some of their socio-demographic characteristics. The analysis will be carried out both on the Eurostat microdata of the harmonized surveys on the use of ICT by families and individuals, and on the "aspects of daily life" survey. The work involves a first phase of acquisition of Eurostat microdata and the construction of a single data set. Subsequently, both descriptive and multilevel analyzes will be carried out on the use of Internet and sharing platforms by individuals in different European countries with a particular focus on Italy and on the area of Sharing Mobility that represents one of the main areas in which the meeting between offer and demand for a service is mediated by the use of sharing platforms and, in general, of the smartphone and ICT.	Laura Zannella, Valentina Joffre	Basic statistical knowledge and SAS and / or R software	YES	Roma - Viale Liegi 13
25	DIPS	DCSS	SSA	Application of sequence analysis techniques to social investigations	Starting from the data of social surveys "Use of Time" or "Families, social subjects and life cycle", carry out sequence analysis of events (in terms of daily activities or life cycle events or work episodes). These analyzes can be developed also considering the contextual information contained in the surveys.	Tania Cappaduzzi ed Eleonora Meli	Knowledge of sequence analysis	YES	Roma - Viale Liegi 13
26	DIPS	DCSS	SSB	Integration of administrative data for the purpose of identifying critical (or useful) underpins for counting the population normally residing in Italy	The internship course is aimed at forming competence in the field of integration of administrative sources coming from different bodies. In particular, it is a matter of training resources with minimal computer skills and willing to compete on skills inherent in classification criteria at the level of macro categories. We start with an approach to integrate sources at the micro level (unit level) to proceed with "macro" classification levels.	Gerardo Gallo	SQL-PLUS; SAS, microsoft package	YES	Roma - Piazza Marconi 26/c
27	DIPS	DCSS	SSB	Record linkage methods and techniques for improving the integration between administrative archives and survey data (permanent census)	The internship is aimed at the study and application of the main deterministic and probabilistic record linkage techniques, aimed at improving the integration between the registries data and the return of the permanent census data.	Nicoletta Cibella	SQL-PLUS; microsoft package	YES	Roma - Piazza Marconi 26/c
28	DIPS	DCSS	SSB	The new permanent census of the population between tradition and innovation	The internship provides for the in-depth study of the novelties of the new census in view of the continuous dissemination of data; from the classical exhaustive survey to the use of samples for the correction of the population register	Antonella Bernardini	Knowledge of R and basic statistics	NO	Roma - Piazza Marconi 26/c
29	DIPS	DCSS	SSB	Analysis and synthesis of data for measurement at the municipal level of complex socio-economic phenomena	Starting from the new Istat experimental database (http://amisuradicomune.istat.it/aMisuraDiComune/) it is possible to measure multidimensional phenomena such as well-being, poverty (material and educational), inequality, environmental quality.	Matteo Mazziotta	Knowledge of multivariate analysis and synthetic indexes	YES	Roma - Piazza Marconi 26/c
30	DIPS	DCSS	SSC	Analysis of the sources and methods of study of trafficking in human beings	The purpose of the internship is to deepen the phenomenology of trafficking in human beings. The internship will focus on the recognition of statistical sources and on the analysis of the methodologies adopted at international level for the study of the phenomenon with particular reference to the study conducted by the United Nations.	Claudia Villante	A necessary prerequisite will be to have carried out study activities on the subject focus of the internship. It also requires adequate statistical knowledge for data processing and micro-data.	YES	Roma - Viale Liegi 13
31	DIPS		PSS	Statistics for the analysis of the match / mismatch between training offer and demand for professional profiles	Statistical analysis of data. Analysis of the main components for data synthesis and visualization. Extraction and data collection through web scraping techniques (python). Natural language treatment; construction of statistical-linguistic resources and local grammars.	Paola Ungaro	Specific skills in the use of the R software for the processing and statistical analysis of data. Specific skills in using iramteq software for automatic text analysis. Theoretical knowledge concerning the basic principles to follow for the construction of graphs, the main visualization techniques and exploratory data analysis. Theoretical knowledge on Text Analytics and Opinion Mining tools and techniques.	YES	Roma - Piazza Marconi 26/c
32	DIPS		PSS	In-depth analysis of work-related analyzes within the family microsimulation model	Review of the literature on the subject and preparation of the outline of the work module to be implemented in the FamMod model	Paola Tanda		YES	Roma - Viale Liegi 13
33	DIPS		PSS	Integration of welfare indicators within the macroeconomic model of Istat MeMo-It	Starting from the current version of the MeMo-It model, we want to extend the results to include well-being indicators, such as distributional aspects of income and energy	Davide Zurlo		YES	Roma - Viale Liegi 13
34	DIPS		PSS	Development of a Midas model for the short-term forecast of the Italian economy	Starting from the results achieved for the new short-term forecast model, we want to extend the analysis using Midas type models	Roberto Iannaccone		YES	Roma - Viale Liegi 13
35	DIRM	DCCO	COA	Integrated Communication Campaign Project	The internship pathway is aimed at inserting the trainee in the concrete experience of development and management of an integrated communication campaign of an institutional type, aimed at differentiated targets (citizens, companies, stakeholders and public administration), characterized by cross-media and synergistic use of multiple channels of communication, planned according to non-sequential times and phases. This path, developed alongside the team of experts involved in the activity, will allow the trainee a complete "in the field" work experience and, above all, a knowledge of the specific field in which Istat operates (messages, communities, reference networks) at national and international level.	Micaela Paciello	Good knowledge of tools and institutional communication channels. Awareness of the context in which Istat operates at national and international level.	NO	Roma - Via Balbo 16
36	DIRM	DCCO	COA	Communication through Social Media	The internship pathway is aimed at inserting the trainee in the management of Istat's social media system. In particular, the experience includes the following activities: • the production of digital content, created ad hoc for social channels; • the development of the relative editorial plans; • interaction with the relevant public. This experience will enable the trainee to learn from within the management methods of the social media system by a public research institution, producer and communicator of information, operating in a national and international network, committed to promoting the correct use of data, reaching also public of non-professionals to reinforce the perception of the usefulness of statistics in collective and individual choices.	Michela Troia	Good knowledge of Social Media, good skills in producing digital content for social media, awareness of the context in which Istat operates at national and international level.	NO	Roma - Via Balbo 16
37	DIRM	DCCO	COA	Institutional communication	The internship pathway is aimed at inserting the trainee in the activity of institutional and corporate communication activities, ie relating to the role and identity and vision of the Institute through actions, campaigns and reputational conversion projects. The intern will be included in the activities of: • creation and implementation of campaigns to promote projects and products of the Institute, • management of brand policies and use of the Institutional Brand-Logo, • preparation and updating of the Institute's Communication Plan.	Anna Stoppa	Good writing skills, relationship skills. Awareness of the context in which Istat operates at national and international level.	NO	Roma - Via Balbo 16
38	DIRM	DCCO	Staff	Press office	The training course aims to include the trainee in the daily work experience of the ISTAT press office. The trainee will be supported by a tutor who will be able to direct him towards good practices aimed at ensuring a careful monitoring of the news and the realization of effective and usable contents to be conveyed to the media and to the community.	Anna Maria Tononi	Good knowledge of the world of information, of the different media needed for media relations activities. Knowledge of services for journalists (agency concentrator, sports journalist, monitoring of press agencies, dissemination of press releases).	NO	Roma - Via Balbo 16
39	DIRM	DCIT	ITC	Data Protection: compliance with the GDPR - EU 2016/679 regulation in the field of IT security	The purpose of the training course is to understand the processes and the technical and organizational measures necessary to ensure effective implementation of the provisions of the GDPR Regulation - EU 2016/679, adopted in the Institute, both for technological and organizational aspects (processes, roles and responsibilities). The final objective will be to analyze and possibly propose the Security Controls according to the ISO / IEC 27001 and the Security Measures according to the ENISA approach, appropriate for a greater IT compliance with the GDPR. Specifically, the training course will materialize with the preparation of an analysis document and assessment of the degree of adequacy / adherence of the controls and technical measures (with reference to ISO 27001 and ENISA) and of the collection and analysis of Best Practices at the level of Institutes of European and International statistics.	Giuseppe De Marco	Master's degree in computer / scientific subjects; thesis in computer security; excellent knowledge of basic IT tools; analysis, synthesis and proactivity skills; good relationship skills	NO	Roma - Via Balbo 16
40	DIRM	DCME	MEA	Evaluation of public policies	The trainee will effectively address the evaluation of the impact of public policies by estimating the impact of a public policy implemented in Italy. From a conceptual point of view, the counterfactual approach will be used to estimate what would have happened in the absence of intervention and therefore to calculate the difference between the two states of the world. The topic is particularly relevant as it allows us to express a judgment based on rigorous considerations and methodologies on the opportunity to invest public money in some sectors and / or methods by using company micro-data and / or families and / or workers.	Barbara Guardabascio, Federico Brogi, Agostina Zanoli	Basic knowledge of statistics and econometrics and statistical software for data analysis	NO	Rome - Location to be defined
41	DIRM	DCME	MEA	Evaluation of public policies and social capital	Social capital is a line of studies / research that aims to support the policy maker in the (re) design of social welfare. In particular, in recent years the research has focused on the study of the preference for redistribution, reaching non-univocal results, also due to the limited availability of databases, partial or dated. The trainee is offered the study of information available from the Istat multi-purpose to help move a small but significant step in this research area.	Barbara Guardabascio, Federico Brogi, Agostina Zanoli	Basic knowledge of statistics and econometrics and statistical software for data analysis	NO	Rome - Location to be defined
42	DIRM	DCME	MEA	Social capital	The objective of the internship is to provide the student with the logic and tools of ex-post evaluation of public policies with a counterfactual approach. The internship also includes an applied phase of using the models and evaluating a policy. The intern at the end of the course will be able to move independently among the main ex-post evaluation models and to use the relative commands of the STATA software	Barbara Guardabascio, Federico Brogi, Agostina Zanoli	Basic knowledge of statistics and econometrics and statistical software for data analysis. Preferential title for participation is to have attended a basic course on the internship topic	NO	Rome - Location to be defined

43	DIRM	DCME	MEB	Methods for quality assessment of statistical processes that use data from administrative sources	The experience starts with analyzing an already existing statistical production process for which the quality assessment (such as the process for the construction of the Register of Places) of all its sub-processes (acquisition of the input source of administrative type, management and treatment of the sources, production of statistical output), understanding the quality requirements of this process and implementing the appropriate evaluation techniques. The most immediate aims would be to learn how to recognize the quality components of a given process and study which calculation methods are most effective for highlighting the possible sources of error in the process itself and how to interpret these indicators. The internship will require learning in the field with the support of an expert in the field and moments of study of the existing literature.	Stefano Daddi	Knowledge of the R software is required	NO	Rome - Location to be defined
44	DIRM	DCME	MEB	Longitudinal studies on the income register	The income register is at an advanced stage of prototype development. It consists of an ordered collection of individual annual data relating to individual sources of income: income from employment and self-employment, income from movable property and real estate, transfers and social benefits, taxes and contributions. There are about 30 variables ordered according to a conceptual articulation borrowed from international regulations. Currently, the registry is developed on a large sample of over one million individuals. The annuities available range from 2013 to 2017. On variables already consolidated at individual level (retirement income and regular employment income) the trainee is required to analyze the evolution of the individual income over the observed period and to propose one or more classification methods synthesis of individual trajectories, following and possibly comparing approaches already tested in the literature.	Carlo De Gregorio	General statistical and economic skills. It is essential to use software packages, not necessarily proprietary ones (alternatively, R, SAS, STATA, SPSS). As a policy of this internship, it is not absolutely necessary to attend regularly the premises of Istat, except for the address of the activities, the discussion of the results and the verification of the activities. For this type of approach a collaborative approach of the trainee is needed. The trainee must be equipped with his own technical and IT equipment.	YES	Rome - Location to be defined
45	DIRM	DCME	MEC	Statistics extraction from satellite maps	Recently, the development of Deep Learning has brought out convolutional neural networks as an effective and robust framework for the advanced analysis of large amounts of Visual Big Data. In particular, we are talking about neural networks for the segmentation and classification of features within the images. The extracted features can allow the generation of completely automated and massive statistics on an enormous quantity of images. In this path we propose to work on the segmentation and classification of satellite images of urban or extra-urban territories for the extraction of simple automatic statistics: land cover, or percentage of land occupied by civil / military buildings, percentages of plantations, trees, etc. Or we propose to extract more complex statistics to be agreed. It is a critical issue for Istat since there are no other Machine Learning tools that can analyze the huge amount of satellite images that Istat has available. On the other hand, traditional statistics today present enormous difficulties in extracting aggregated information from images automatically. In this project methodological skills will be acquired on deep learning models for image classification (wide residual networks, capsule networks, etc.), segmentation (u-net, fast r-cnn, etc.) and computer vision technical skills (open cv), programming in python and various libraries of machine learning (scikit-learn) and deep learning (keras, tensorflow, etc.)	Francesco Pugliese	Knowledge of Python and / or R is recommended	YES	Rome - Location to be defined
46	DIRM	DCME	MEC	Conversational models (chatbot) for Official Statistics	Recently the development of chatbot is the focus of attention of many public and private research institutions. In the field of Machine Learning and in particular of Deep Learning, high-level results have been achieved in a few years. Recurrent sequence-to-sequence learning models have been able to provide advanced chatbots with a degree of interaction equal to today's state of the art in this area. It identifies multiple chatbot applications applied to the automatic help desk, to recruitment, to the FAQ (Frequently Answered Questions). In all these cases, for each application, the chatbot is intended as a revised and advanced version of the traditional system examined. Furthermore, the development of "statistical" chatbots that generate aggregated data starting from "chatlog" is becoming very popular. Experimentation of a chatbot detector / pollster in Istat could have many developments and could lead to a completely new and automatic tool for the extraction of statistics. Let's think of it as a "2.0 Questionnaire". Furthermore the seq2seq models that are used for chatbots could also have practical applications for the development of a semantic search engine, as they are able to extract information from the training set in an end-to-end and contextual manner. Semantic search engines are a hot topic for the Institute. In this project we will acquire methodological skills of sequence-to-sequence learning (seq2seq models with attention), dynamic memory networks (DMN) and technical skills in python programming, scraping and data-set organization for machine translation and various machine learning libraries (scikit-learn) and deep learning (keras, tensorflow, etc.).	Francesco Pugliese	Knowledge of Python and / or R is recommended	YES	Rome - Location to be defined
47	DIRM	DCME	MEC	Machine Learning for Automatic Data Input in Official Statistics	Data input and input completion are important issues in Official Statistics. Or how to complete the input in a dataset when some information is missing or missing? It is a long-standing problem often linked to the compilation of questionnaires which are not easy to solve. Several projects concerning the automatic completion of data through Bayesian, loglinear, etc. statistical models are already active within Istat. However, the use of cutting-edge Machine Learning tools in Istat for data imputation is still limited. From the literature it appears that with the Deep Learning the state of the art can be reached in the accuracy of the automatic classification of input to be inserted to complete the data. In this path we propose to develop innovative models of Deep Learning for the imputation and completion of data through deep neural networks (Deep Learning). Already some experiments in this sense have been carried out with very positive results. In this project we will acquire advanced methodological skills of data classification with "state-of-art" deep learning models (convolutional neural networks, recurrent convolutional neural networks, recurrent neural tensor networks, etc.) and technical skills of programming in python and various libraries of machine learning (scikit-learn) and deep learning (keras, tensorflow, etc.).	Francesco Pugliese	Knowledge of Python and / or R is recommended	YES	Rome - Location to be defined
48	DIRM	DCME	MEC	Machine Learning Approach to Time Series Analysis	The analysis of historical series is a widespread activity in Istat in different directions. From National Accounting (conjunctural GDP) to agriculture surveys. In general, this type of analysis is focused on "forecasting", ie the prediction of future values. However, often the models used for the analysis of the time-series used in Istat are very traditional and based on linear methods, among the most known are the "Auto-Regressive Integrated Moving Average" (ARIMA). ARIMA methods work well on very stationary data and on which some very strong basic assumptions are made about the distributions used and the stationarity of the time series. Furthermore, the ARIMAs present difficulties with regard to multi-varied analysis. On the other hand, the neural models of the Deep Learning are gaining more and more attention in the prediction of the time-series since an "a priori" analysis of the data is almost always unnecessary or minimized. In fact the capabilities of automatic extraction of features (latent patterns or regularities within the data) of the deep neural networks do not require a previous knowledge of the time-series structure and have been found to be rather stable and reliable on the highly non-stationary time-series, moreover allow multi-varied analysis. Therefore deep neural networks are suitable for the production of general-purpose time-series frameworks. In this theme we propose the development of a web-application and a back-end of time-series prediction based on neural networks, perhaps to be included in the "Istat experimental statistics section". The web-app could be used by various services in Istat and could make it possible to select input columns (X) and the outputs on which to predict (Y). It should also provide visualization charts of the time series in the prediction and the metrics used to assess the accuracy of the prediction (RMSE, MAP, MAE, etc.). In this project we will acquire methodological skills of advanced deep models of time-series forecasting such as WSAEs-LSTM, which is a "state-of-art" model able to efficiently combine Transform Wavelet (WT) for "data denoising"; Stacked Autoencoders (SAE) for efficient extraction of high-level features and LSTM (Long Short Term Memory) for historical series modeling. It may also be required to study how to combine these prediction models with those of the Sentiment classification of news, twitter or other and that could lead to an increase in prediction accuracy. Furthermore, technical skills in python programming, scraping and data-set organization of time series and various libraries of machine learning (scikit-learn) and deep learning (keras, tensorflow, etc.) will be acquired.	Francesco Pugliese	Knowledge of Python and / or R is recommended	YES	Rome - Location to be defined
49	DIRM	DCME	MEC	Machine Learning approach to Record Linkage	Recently, the development of Deep Learning has brought out convolutional neural networks as an effective and robust framework for the analysis of large amounts of big data. There are also neural networks such as the Siamese Networks able to approach one of the most long-standing problems in the field of Official Statistics: the record linkage. A National Statistical Institute is primarily a huge data collector; these data come from different sources and often have different formats, although they contain the same information two fields may not be linked easily. The statistical record linkage deals with matching two records that present the same information but in different formats. Several approaches have been attempted over the years based on metadata, statistical models, etc. In this path we propose to work applying the Deep Learning, that is neural networks, to the problem of the supervised and non-supervised record linkage. It is a critical issue for Istat since there are no methods to make efficient record linkages yet. In this project the trainee will acquire methodological skills on deep learning models for the classification and coupling of texts and numbers (recurrent neural networks, wide residual networks, capsule networks, etc.), and computer vision (open cv), programming technical skills in python and various libraries of machine learning (scikit-learn) and deep learning (keras, tensorflow, etc.).	Francesco Pugliese	Knowledge of Python and / or R is recommended	YES	Rome - Location to be defined
50	DIRM	DCRD	RDA	Analysis of information deriving from the paradigms of web acquisition systems	The training course is aimed at analyzing the information on the compilation of the questionnaires taken from the paradata collected during the web surveys with the aim of making improvements to the design of the questionnaires.	Sabrina Barcherini	Basic skills for data analysis	NO	Roma - Via Balbo 39

51	DIRM	DCRD	RDA	Evaluation systems for data collection processes	The internship is finalized to: 1) the design and development of online questionnaires for the survey networks; 2) data analysis and formulation of proposals with a view to optimizing processes.	Sabrina Barcherini, Donatella Grassi	Basic skills for data analysis	NO	Roma - Via Balbo 39
52	DIRM	DCRD	RDC	Data collection in Istat: the case of institutions as respondents	The purpose of the internship is to create a training course for people interested in the production of official data with specific reference to the phase of collection. The focus is mainly on respondents 'institutions' and their features. Design, organization and management that are characterized and differentiated according to whether it concerns the supply of archives or through surveys and on the basis of the different types of respondents, the presence or absence of intermediate bodies, the informative and training return on respondents. The training course will be developed in a first theoretical part and in a second operational part.	Giancarlo Gualtieri	Advanced knowledge of the most used statistical software (eg SAS) and basic legal training	NO	Roma - Via Balbo 39
53	DIRM	DCSI		Analysis of graph data for large-scale surveys	Introduction to graph theory; representation of data on graphs; models for graph analysis; methods and techniques for graph positioning. Methods and techniques for the construction of functional regions. Exercises on real data.	Alessandra Reale e Marco De Angelis	Skills in at least one of the following languages: SAS, R, Python.	NO	Roma - Via Balbo 16
54	DIRM	DCSI		Data cleaning and control methods (data cleaning)	Introduction to data control and correction methods; preparation of control plans; methods of imputation of data from model or based on Combinatorial Optimization techniques; study and evaluation of some packages and applications on real or simulated data. Writing of Latex documentation.	Alessandra Reale, Fabiana Bianchi e Francesco Scalfati	The basic knowledge of GIS systems is appreciable	NO	Roma - Via Balbo 16
55	DIRM		RMB	Study of equitable and sustainable well-being at the territorial level	The theme lends itself to the development of various theoretical and applicative in-depth studies that can be focused, also according to the disciplinary sector of origin of the student, on: a) methodological aspects: evaluation of the quality of the sources, construction and evaluation of the quality of territorial indicators, methods and models of territorial analysis of multidimensional phenomena; b) socio-economic and thematic analysis: territorial trends of single components of well-being; study of the interrelations and trade-offs between components of well-being; study on the relevance, completeness and relevance of the frameworks for measuring different BES domains; relations between well-being and the economy (private and public); c) use of welfare measures for the evaluation of local policies: economic planning of local and regional authorities (DEFR and DUP); Social mandates and area budgets; multilevel governance and participatory processes; relevance and effectiveness of local welfare with a view to territorial well-being.	Anna Maria Cavori, Giulia De Candia		NO	Genova e Torino
56	DIRM		RMB	Demographic territorial studies	Analysis of the demographic development of Liguria or portions of the Ligurian territory. Regional demographic forecasts.	Giulia De Candia		NO	Genova
57	DIRM		RMC	Dissemination of statistical information and training interventions in schools	The trainee can deepen the knowledge of the information assets of the Institute (databases, products, surveys) and the activities carried out by the Statistical Information Center, thus acquiring a knowledge of the different sources, useful for his course of study. The trainee will also experiment with all the design phases of interventions and contents to be allocated to schools and other types of targets (e.g. night of the researchers - September 2020). The most general objective is to raise awareness of the relevance of official statistics and subsequently in trainees career path.	Lorena Viviano e Daniela Ferrazza	Knowledge of Office packages and knowledge of statistical fundamentals (basic statistics, sampling techniques)	NO	Milano
58	DIRM		RMC	Proposal of a composite indicator on lifestyles	The internship consists of a training experience aimed at making the trainee understand the use of data within public policies, in particular healthcare. The course will focus on the construction of a composite individual index of lifestyles able to summarize indicators of behavior related to smoking, excess weight, sedentariness and harmful consumption of alcohol. The macrodata used for the construction of the index will be those of the Daily Life Multi-Purpose Survey (from 1997 to the most recent year available). The regional proportion of subjects with unhealthy lifestyles (individuals with a high score in the composite index) can be used as a proxy for the outcome of prevention interventions and promotion of healthy lifestyles implemented by individual regions.	Alberto Vitalini	Knowledge of Office packages and knowledge of statistical fundamentals (basic statistics, sampling techniques)	NO	Milano
59	DIRM		RMD	Indicators of well-being economic conditions and poverty of families	Research, selection and elaboration of well-being indicators (BES and SDGs) with particular attention to territorial detail and poverty.	Carlo Declich, Roberto Costa		YES	Venezia e Trieste
60	DIRM		RMD	Health, aging and informal support networks	Develop analysis in the context of one of the following topics: 1) population health; 2) informal support networks; 3) population aging process and active aging at regional and national level.	Marija Mamolo	Knowledge of R or SAS software	YES	Trieste
61	DIRM		RMD	Communicate statistics to children	Communicating statistics to children and young people means transmitting them the value of data and the tools to process them and orientate among official statistics. Educational workshops, games, fairy tales and unconventional representations of data bring the world of numbers and statistics in a pleasant way. Study proposal of the activity carried out in Veneto and future perspectives.	Susi Osti		YES	Venezia
62	DIRM		RMD	Gender differences in lifestyles	At home, at work, at school there are profound differences between the lives of women and men, but there are also similarities. The internship proposes a comparison between women and men observed in their daily life: what do they look like and how do they differ? Demography and health (life expectancy, perception of health status, parenting), level of education, work and family, redistribution, lifestyles (nutrition, alcohol, smoking, sporting activities), use of time (housework, cooking, entertainment, cinema, social networks and online purchases).	Paola Boscolo		NO	Venezia
63	DIRM		RMD	The Local Labor Systems in Friuli Venezia Giulia	Integrated reading of demographic, social and employment data, etc. at the LLS level to better understand the emerging social and economic dynamics in the territory of Friuli Venezia Giulia.	Elena Marchesich		YES	Trieste
64	DIRM		RMD	ICT: dissemination and use	The use of communication and information technologies (ICT) greatly expands the individual possibilities of having information and knowledge and has become a fundamental element of inclusion, because it is decisive in the world of work and, increasingly, also in access to services and social life. Temporal and spatial comparison at European and national level.	Plinio Rossi		NO	Venezia
65	DIRM		RME	Italian regions among European regions: comparison of statistical indicators	Survey on the main European statistics at regional level. Analysis of some indicators of interest (Italy-Tuscany-European Regions comparison).	Linda Porciani, Luca Faustini e Lisa Francovich	Knowledge of data analysis software	YES	Firenze
66	DIRM		RME	Sustainable well-being at territorial level	Depending on the preparation of the student or following the interest shown in a particular aspect, the following points may be developed: 1. methods and models for the analysis of territorial divergences (spatial analysis and variability measures, etc.); 2. study on the completeness and evaluation of the quality of the indicators present in the different domains of the BES; 3. use of welfare measures for the evaluation of territorial policies.	Annalisa Pallotti		YES	Bologna
67	DIRM		RME	Data analysis of the non-profit census	The trainee will carry out data analysis activities relating to the non-profit census in a territorial perspective	Francesca Chiuocchio e Francesca Paradisi		YES	Perugia
68	DIRM		RMF	Performance of micro and small businesses: strategies and methods	The Trend Project concerns the development of multiple in-depth studies, both on the methodological side and on the analysis of the information content of the data produced with the active territorial observatories (Marche, Umbria, Toscana and Emilia-Romagna), that is the quarterly estimates of the main performance variables of micro and small businesses by province and sector. Methodological aspects: 1. seasonal adjustment strategies for the analysis of underlying trends; 2. development of forecasting models for the short / medium term.	Chiara Capogrossi e Giampietro Perri	Knowledge of software used in the analysis of data and time series; theoretical and practical knowledge of related statistical techniques	NO	Ancona
69	DIRM		RMF	Gender studies on migrants	The Observatory on Immigration Phenomena (OIF) has been active in the Marche for many years, born for the Province of Macerata, but currently being extended to other territorial areas. In addition to the standard production of spatial data, as the main theoretical development for the future, we intend to follow gender in-depth analysis.	Roberta Palmieri	Knowledge of theoretical issues related to gender studies; use of data analysis software (at least spreadsheets)	NO	Ancona
70	DIRM		RMF	Study of equitable and sustainable well-being at the territorial level	The theme lends itself to the development of various theoretical and applicative in-depth studies that can be focused, also according to the disciplinary sector of origin of the student, on: a) methodological aspects: evaluation of the quality of the sources, construction and evaluation of the quality of territorial indicators, methods and models of territorial analysis of multidimensional phenomena; b) socio-economic and thematic analysis: territorial trends of single components of well-being; study of the interrelations and trade-offs between components of well-being; study on the relevance, completeness and relevance of the frameworks for measuring different BES domains; relations between well-being and the economy (private and public); c) use of welfare measures for the evaluation of local policies: economic planning of local and regional authorities (DEFR and DUP); Social mandates and area budgets; multilevel governance and participatory processes; relevance and effectiveness of local welfare with a view to territorial well-being.	Stefania Taralli	Basic skills in the field of territorial statistical analysis and in the use of connected application software	NO	Ancona
71	DIRM		RMF	Study of equitable and sustainable well-being at the territorial level	The proposed theme lends itself to various analyzes that vary according to the disciplinary sector to which the student belongs: 1) study on the completeness and quality of the indicators present in the domains of equitable and sustainable Well-being; 2) analysis of methodologies for the study of territorial divergences (spatial analysis, variability measures, etc.); 3) use of welfare measures for the evaluation of local policies.	Monica Carbonara	Basic skills in the field of territorial statistical analysis and in the use of connected application software	NO	Bari
72	DIRM		RMF	Study of equitable and sustainable well-being at the territorial level	The proposed theme lends itself to various analyzes that vary according to the disciplinary sector to which the student belongs: 1) study on the completeness and quality of the indicators present in the domains of equitable and sustainable Well-being; 2) analysis of methodologies for the study of territorial divergences (spatial analysis, variability measures, etc.); 3) use of welfare measures for the evaluation of local policies.	Assunta Lisa Carulli, Edoardo Patrino, Valentina Fusco	Basic skills in the field of territorial statistical analysis and in the use of connected application software.	NO	Pescara
73	DIRM		RMF	Analysis of the work of immigrants in Puglia	The purpose of the internship is to observe the dynamics of foreign workers in Puglia	Lucia Mongelli	Basic skills in the field of univariate and multivariate statistical analysis. Use of application software for data analysis	NO	Bari
74	DIRM		RMG	The quantitative approach to the analysis of socio-economic phenomena	The objective of the internship is to guide the student in identifying the qualifying data for the measurement of the main phenomena, in integrating them into coherent information frameworks and in the consequent analysis through the tools of descriptive statistics. The internship is likely to satisfy the most diverse topics of interest to the student (social, economic, methodological, organizational, demo-social, etc.). Within these, it will be possible to analyze themes such as the socio-demographic study of migratory flows, the socio-economic study of "internal areas" or the study of the non-profit universe and others, also declined for specific territorial areas.	Giuseppe Stassi			Roma, Viale Liegi, 13, Campobasso e Catanzaro

75	DIRM		RMG	Explore and query the quantitative data available online and bring the cognitive needs to success	The internship intends to transfer to the student the tools necessary for the growth of knowledge based on the quantitative observation of phenomena. The student will be accompanied on a path of development of statistical culture to acquire the necessary tools: to support critical abilities, to understand and analyze information and statistical data with the use of the scientific research paradigm; to read the metadata; to the use of official statistics to a plurality of cognitive contexts (demographic, social, economic, cultural, environmental, etc.), decision-making, evaluation contexts; to the development of a method to support decisions through the use of official statistics. The student will be able to create one or more evaluation forms of the statistical information systems encountered in the course of study and work.	Paola Francesca Cortese			Roma, Viale Liegi, 13, Campobasso e Catanzaro
76	DIRM		RMH	Difusion and growth of start-ups in Campania: an analysis by production sector	In recent years, public incentives for digital innovation have favored the proliferation of start-ups. During the internship it is intended to provide a broad and in-depth description of the public statistical sources relating to start-ups (Istat, MISE, Chambers of Commerce, etc.) in order to statistically identify the size of the phenomenon in Campania and carry out a analysis by territories and by productive sectors of the impact on employment and growth generated by these companies. Particular attention will be given to verifying how start-ups are involved in innovation and research and development processes.	Matteo Potenzieri e Giuseppe Cinquegrana	Knowledge in business economics and economic statistics; experience in accessing online databases; use of the microsof-office package; preferable skills in the use of statistical software such as R / Stata		Napoli
77	DIRM		RMH	Youth mobility in Campania at national and international level	Migration flows from the southern regions have increased in recent years, in particular the proportion of young people who move to other areas of Italy or other countries has increased. Particularly important is the question of the mobility of young graduates who, after completing their university degree in Campania, move towards other areas for professional reasons. The trainee will be able to create an interactive map of the regions and / or countries most appealing for study and / or work reasons of young people born in Campania, through the study of historical series of internal and foreign migration flows, supplemented by data published in administrative reports on the Campania population aged between 18 and 35 years. The work will also include analyzes by municipality of origin, productive sectors and professional qualifications.	Simona Cafieri	Knowledge in demography and statistics; experience in accessing online databases; use of the microsof-office package; preferable skills in using statistical software like R		Napoli
78	DIRM		RMH	Measuring the territory: building new local development indicators through the use of Big Data	Measuring society is an increasingly complex task: the demand for statistical information is constantly increasing, along with requests for local detail and timely data. Some of the information requested is not available through traditional data sources. We speak for example of the cultural ferment or the territorial affection of individuals. Big Data are an important source of information that can be used to construct innovative development indicators at the local level. The objective of the internship is to identify potential indicators, the Big Data sources available for their calculation and their calculation.	Daniela Fusco	Computer skills, in particular the use of R. Knowledge of basic statistics.	YES	Napoli
79	DIRM		RMI	Assessment of the quality of administrative data on property confiscated from the mafia	The internship aims to produce a standard classification for the collection and monitoring of assets confiscated from the mafia and assigned to local authorities, economic enterprises or associations. The student, in addition to the subject of the internship, will be trained on the procedures for classification, collection and storage of administrative data for statistical purposes.	Ludovica Ioppolo			Palermo
80	DIRM		RMI	The use of the SDMX standard in the industrialization of statistical processes	Through the internship path the student will learn: the modeling of multidimensional statistical tables by defining the appropriate metadata; the creation of a dissemination database starting from the metadata up to the publication of the datasets on the Hub node of public statistics.	Fabrizio Consentino			Palermo
81	DIRM		RMI	Civil economy and alternative economic indicators	Many statistical measures are now produced to confront GDP and provide different indicators of production and economic and social dynamics. The internship intends to start from the various measures proposed and to investigate the two major ones in Italy (BES and and SDGs indicators). The interpretation of the statistical indicators must be carried out with respect to the interpretative paradigm of the civil economy rather than that of the neoclassical economy.	Roberto Foderà			Palermo
82	DIRM		RMI	The inland areas of Sicily: between abandonment and potentiality	The aim of the internship is to make the student aware of the structural problems of the internal areas of the region, through an analysis of the demographic, social and economic information available, and of a study on the economic development policies that are expected to be implemented. The student will acquire the statistical skills necessary for a real (relevant) representation of the territory.	Roberto Foderà			Palermo
83	DIRM		RMI	Overview of estimation methods and study of some practical cases with comparative analyzes	Starting from the knowledge acquired in university courses, the trainee will have the opportunity to deepen the methodological aspects of the estimation processes through the analysis of the methods adopted in the Istat surveys in a comparative perspective.	Paolo Misso			Cagliari
84	DIRM		RMI	Indicators for the analysis of the state of health at the local level	The internship includes a path of knowledge of the main statistical sources (administrative and sample in nature) in the social-health field and the construction of indicators aimed at the study and reconstruction of a summary of the health status of the population in the territory. In particular we will try to identify the most fragile areas in terms of health risks and social burdens.	Daniela Vacca			Cagliari
85	DIRM		RMS	Use of the principles of demand management and service management in the internal context of public bodies	The internship starts from the analysis of a specific concrete experience of managing the supply and demand of transversal services in an internal context in the public sector to examine more in general the peculiar aspects, the work flows and the needs of demand management and service management in the internal organization of public bodies.	Daniela Casale	Knowledge of Office Automation tools	NO	Roma - Via Balbo 16
86		DCPS	PSC	Adoption of project & portfolio management methodologies for official statistics	Create a framework prototype for the adoption of project and portfolio management methodologies in official statistics; develop the skills to define, plan, implement and monitor the activities of a project in the framework of official statistics; study and analyze the international methodologies applicable to project management in official statistics. The internship will deepen the project & portfolio management methodologies, in particular openpm2.	Sabrina Pifferi	Knowledge of the basic principles of project management and ms office tools, knowledge of the English language	NO	Roma - Via Balbo 16
87		DCPS	PSC	Adoption of project, program and portfolio management methods in the public administration as support for the rup figure	Adoption of project and portfolio management methodologies in the PA as a support to the rup figure; develop the skills to define, plan, implement and monitor the activities of a project to acquire goods and services in the PA. The internship will deepen the main IT tools and the project & portfolio management techniques for the creation of a reference model in the public administration supporting the figure of the rup	Rosario Magro	Knowledge of the basic principles of project management and ms office tools, knowledge of the English language	NO	Roma - Via Balbo 16
88		DCPS	PSC	Project life cycle and "value" analysis and creation through a project and portfolio management system	Definition of a prototype of a project life cycle with attention to the analysis of results for the creation of "value" through a project and portfolio management system	Silvia Losco	Knowledge of the basic principles of project management and ms office tools, knowledge of the English language	NO	Roma - Via Balbo 16
89		DCPS	PSC	Monitoring indicators for strategic programs	Design of a set of monitoring indicators for strategic programs; identification of keep performance indicators (kpi) for strategic programs. The internship will specifically focus on the measurement and control of company performance with reference to strategic programs	Simona Baldacchini	Knowledge of the basic principles of project management and ms office tools, knowledge of the English language	NO	Roma - Via Balbo 16