GN — GEOGRAPHICAL SCIENCES AND PLANNING

Offered by the Department of Geographical Sciences and Planning. For contact details consult the Faculty of Engineering, Physical Sciences and Architecture entry in the Faculties, Schools and Departments chapter.

GN 100 Environment & Society
#12 (3L2C) 1;2
Inc: AG106 or 108 or GN 101 or 102 or 105 or 111 or LF105 or VG104
Coordinator: Dr Neil.
Assessment: Assignment & final examination.
Sustainability & systems concepts; global & Australian climates & land systems; human population & natural resource implications; characteristics of, & responses to, human impacts on forests, rangelands, farmlands, rivers, coasts & cities.

GN 106 Geographical Sciences: Methods & Techniques
#10 (2L1P<2F) 2nd
Coordinator: Dr Sharma.
Assessment: Assignment & examination.
Practical application of field, mapping, laboratory & computing skills appropriate to study of natural & human systems. Additional fee payable for field trip.

GN 107 Human Settlements
#10 (2L1T<1F) 2nd
Inc: GN 102
Coordinator: Prof. Stimson.
Assessment: Examination, assignment & field trip report.
Introduction to evolution & nature of human settlements both in developed & developing societies. Emphasis on economic & social functions of cities & their spatial form & structure. Case studies in Australia & Asia-Pacific region.

GN 152 Introduction to Planning
#10 (2L2T) 1st
Inc: GN 150 or 151
Assessment: Assignment & examination.
Discipline of urban planning — its nature, scope, methods & relationship to other disciplines. Main concepts & principles involved in planning & design of urban environments at local & urban levels.

GN 160 Integrated Planning Projects 1
#10 (3P) 2nd
Pre: GN 152
Assessment: Practical projects.
Practical work on simple analytical & planning problems designed to integrate relevant subject material.

GN 162 Building & Construction
#10 (3C) 2nd
Inc: QP133 or 237
Coordinator: Mr Elliott.
Assessment: Mid-semester test, assignments & examination.

**GN 170 Professional Communications**  
#10 (2L2P) 1st  
Coordinator: Dr Wadley.  
Assessment: Tests, poster & assignment.  

**GN 201 Physical Geography**  
#10 (4C) 1st  
P: GN 100 or 105  
Coordinator: Mr Davis.  
Assessment: Essay, field study report & examination.  

**GN 202 Location & Land Use**  
#10 (4C) 1st  
Coordinator: Dr Wadley.  
Assessment: Test & assignment.  
Models & techniques applicable in planning & professional situations for analysing a range of land uses, networks & economic activities.

**GN 206 Biogeography**  
#10 (4C) 2nd  
Inc: GN 306 P: GN 100 or 105  
Coordinator: Dr Neil.  
Assessment: Assignment & final examination.  

**GN 211 Resource Management & Planning**  
#10 (3C) 1st  
P: GN 101 or 105  
Coordinator: Ms Peterson.  
Assessment: Examination & project.  
Human-environment interaction. Social & environmental problems of resource utilisation. Environmental planning. Includes analytical studies, professional applications & practical project work.

**GN 215 Issues in Australia's Development**  
#10 (4C) 1st  
P: GN 100 or 105  
Coordinator: Mr Davis.  
Assessment: Test, assignment & examination.
Key physical, environmental, economic, social & political issues in Australia's development. Regional case studies or examples.

GN 230 Statistical Analysis
#10 (4C) 1st
Pre: EC135 or 136 or MS113 or 150 Inc: GE230 or 250 or 330 or MS212 or 252 or 261 or 263 or 304 or 473
Coordinator: Dr Smith.
Assessment: Project.
Core numeracy skills. Multivariate statistical methods for analysis of geographical data. Use of computer statistical packages.

GN 234 Cartography
#10 (2L2P) 1st
Inc: GN232
Coordinator: Dr Phinn.
Interactive display & visualisation of spatial information. Includes cartographic communication & interactive query techniques to analyse & understand land features & patterns. Offered in odd numbered years.

GN 235 Air Photo Interpretation
#5 (2C) 2nd
P: GN106
Coordinator: Mr Davis.
Assessment: Assignments & examination.
Interpretation of geographic & spatial information from air photos, including single prints & overlapping stereo-pairs. Interpretation of black & white & colour photographs in studies of landforms, soils, slopes, land use & urban functions.

GN 237 Air Photo & Map Interpretation
#10 (4C) 2nd
Inc: GN235 P: GN106
Coordinator: Mr Davis.
Assessment: Assignments & examination.
Interpretation of geographic & spatial information from air photos, including single prints & overlapping stereo-pairs. Interpretation of black & white & colour photographs in studies of landforms, soils, slopes, land use & urban functions. Geometric properties of air photos & cartographic principles of map reading. Physical landscape interactions & human geographic responses from maps & aerial photos of various scales.

GN 238 Introduction to Remote Sensing of Environment
#10 (4C) 1st
Inc: NR109 P: GN106
Coordinator: Dr Phinn.
Physical basis of remote sensing, sensor systems, interpretation & applications of remotely sensed data for environmental monitoring & modelling. Application of remote sensing in applied environmental sciences. Includes aerial photographs, satellite, radar & hyper-spectral image data sets.

GN 242 Geographical Information Systems
#10 (3L1T) 1st
P: GN 106
Coordinator: Dr Sharma.
Assessment: Laboratory quiz & examination.
Conceptual & technical foundations of geographical information systems. Applications as urban information systems, natural resources & environmental management systems & emergency response systems. Introduction to advanced GIS software.

**GN 250 Planning Theory**
#10 (2L2P) 1st
Pre: GN 150 or 152
Coordinator: Mr Fagence.
Assessment: Project & examination.
Planning theory & philosophy; planning process; community participation.

**GN 251 Rural Planning**
#10 (3C) 1st
Pre: GN 150 or 152
Coordinator: Mr Fagence.
Assessment: Project & examination.
Study of rural areas; concepts, theories, rural systems, land tenure, land use, rural service delivery; particular rural problems & planning policies & solutions; rural settlement & small country towns. Includes analytical studies & practical project work.

**GN 252 Local Planning**
#10 (3C) 2nd
Pre: GN 150 or 151 or 152
Coordinator: Dr Siksna.
Assessment: Project.
Detailed analysis of factors, concepts, theories & principles involved in planning at local level. Queensland Residential Design Guide, site analysis, site planning, local area planning.

**GN 253 Urban Design**
#10 (3C) 2nd
Pre: GN 151 or 152
Coordinator: Dr Siksna.
Assessment: Several analytical & design projects.
Factors, concepts, theories & principles involved in designing physical environments at local & urban levels, with particular emphasis on design or urban space. Measures used to implement urban design proposals — design plans & policies, design guides & controls.

**GN 254 Heritage Conservation & Local Character**
#10 (2L) 1st
Pre: GN 253
Coordinator: Dr Siksna.
Assessment: Practical projects/ exercises.

**GN 260 Integrated Planning Projects 2**
#10 (3P) Year
Pre: GN 160
Coordinator: Dr Smith.
Assessment: Project.
Practical work on advanced analytical &/or planning problems designed to integrate subject material covered in 2nd year of course, generally involving projects such as residential areas, small centres, site & local planning level.

**GN 262 Valuation Principles**
#10 (3C) 1st
Inc: QB128
Coordinator: Mr Elliott.
Assessment: Tutorial tests, assignments & examination.

**GN 263 Urban & Rural Valuation**
#10 (3C) 1st
Inc: QA205 or QB229 or 245 or QP134
Coordinator: Mr Elliott.
Assessment: Tutorial tests, assignments & examination.
Application of valuation methodology & principles to urban (particularly commercial offices) & rural real estate. Applied computer modelling for income producing real estate & the preparation of associated valuation reports.

**GN 264 Statutory Valuation**
#10 (3C) 1st
Comp: GN263 Inc: QB230
Coordinator: Mr Elliott.
Assessment: Tutorial tests, assignments & examination.
Application of valuation methodology within a framework of legal precedents & statutory law. Role of an expert witness with respect to valuation & assessment of compensation for compulsory purchase of land.

**GN 265 Advanced Valuation**
#10 (3C) 2nd
Inc: QB231 P: GN263
Coordinator: Mr Elliott.
Assessment: Assignments & examination.
Valuation of complex urban & rural properties. Application of computer spreadsheet models & other software models to the valuation of multi-tenanted real estate. Valuation of specialised properties with emphasis on hotels & resorts.

**GN 273 Planning Techniques**
#10 (2L) 2nd
Pre: #70 BRTP subjs
Coordinator: Dr Smith.
Assessment: Two assignments.
Decision analysis, plan generation & evaluation, forecasting & spatial modelling.

**GN 274 Planning Practice & Administration**
#10 (3L) 2nd
Pre: GN152 + 170 Inc: GN450 or 470 or GT275
Coordinator: Dr Smith.
Assessment: Examination & assignment.
Practices & procedures in professional work in government authorities & private consultancy.

GN 275 Transport & Infrastructure Planning
#10 (2L) 2nd
Pre: GN152 Inc: E2398 or GN271
Coordinator: Dr Smith.
Assessment: Assignments & final examination.
Transport modes, surveys & studies, traffic generation, movement & management, transport & land use. Elements of sewerage, water supply, storm drainage & waste treatment disposal.

GN 290 Sustainable Development 1
#12 (3L2T) 2nd
P: NR105
Coordinator: Prof. Hundloe.
Assessment: Assignments & examination.
Understanding of ecology, economics & society. Development of theoretical & practical interrelationships between these facets of sustainable development. Sustainable development is differentiated from earlier environmental management approaches.

GN 291 Principles of Cleaner Production
#12 (3L2T) 2nd
Inc: 1E300 or 459
Coordinator: Mr Pagan.
Assessment: Tutorial tests, assignments & examination.
Cleaner production principles & available tools that allow cleaner production decisions. Real life knowledge of specific industry sectors that carry out pollution prevention & in which cleaner production progress has been achieved.

GN 303 Barrier Reef Studies
#5 2nd
Pre: GN201 or 206 or 211 or 306 or ID206
Quota: 25
Coordinator: Dr Phinn.
Assessment: Field report & examination.

GN 304 Climatology & Hydrology
#12 (3L2T) 2nd
Inc: GN316 P: GN100
Role of water in environmental processes; spatial & temporal patterns, influence on soils, geomorphology & biota & humans as a modifying agent. Water movement in landscape, including influence of vegetation, runoff generation, groundwater & river systems, emphasising catchment scale processes & issues. Water supply & quality management.
GN 305 Geomorphological Analysis  
#10 (4C) 2nd  
Pre: GN 201 or 205 or XG 201 [For BSc Pre: GN 201 or 205]  
Coordinator: Mr Davis.  
Assessment: Field project & examination.  

GN 309 Population Analysis, Demographic Techniques & Forecasting  
#10 (4C) 1st  
Pre: EC 134 or GN 130 or 230 or HM 236 or ID 130 or 151 or MS 102 or 103 or 112 or 113 or 202 or PY 103 or 201 or 261 or XG 200 C: GN 202  
Introduction to demographic techniques. Demographic models, life-table construction, migration theory & measures, cohort-component models & other methods for projecting & forecasting population.

GN 310 Urban Form & Structure  
#10 (3C) 2nd  
Pre: GN 150 or 152 or 202 Inc: GN 208  
Coordinator: Dr Siksna.  
Assessment: Examination.  
Descriptive & normative concepts, theories & principles involved in analysing & planning form & structure of urban settlements. Includes analytical studies & practical work.

GN 312 Environmental Planning & Impact Assessment  
#10 (2L2P) 2nd  
Pre: GN 211 Inc: GN 311 or 329  
Coordinator: Prof. McDonald.  
Assessment: Examination & project.  
Environmental quality control & resources management policies, legislation & plans. Environmental impact assessment & its role in planning. Practical application to major case study.

GN 319 Special Topics  
#10 1;2;Sum  
Pre: #150 (at least #40 from subjs relevant to project + permission of Head of Dept)  
Coordinator: Prof. McDonald.  
Assessment: Project.  
Advanced coursework, field trip &/or research projects in particular specialised aspects offered by staff members in their fields of interest. For details & approval of topic consult Head of Dept.

GN 337 Geomatics  
#10 (2L2T) 2nd  
Pre: GN 234 or 381 Inc: GN 382 or 384 C: GN 238  
Coordinator: Dr Pullar.  
Assessment: Mid-semester examination, assignment & field project.  
Principles & skills in use of rapid data collection systems to map the earth's surface. Reference frameworks for earth measurement, position fixing by satellite, terrain extraction & accurate feature mapping from aerial photographs & images.
GN 338 Advanced Remote Sensing of Environment
#10 (4C) 2nd
Pre: GN 238
Coordinator: Dr Phinn.
Theory & practice of digital image processing for extracting environmental information from current & next generation satellite/airborne imaging systems. Application of pre-processing, enhancement, classification & modelling routines to interpret & analyse remotely sensed data. Applicable for biological, terrestrial, atmospheric & oceanic sciences.

GN 342 Special Topics in Geographical Information Systems
#10 (3L1T) 2nd
Pre: GN 242
Technical design & implementation of spatial analysis & GIS modelling applications.

GN 354 Urban Design Field Trip
#10 2nd
Pre: GN 253 or 310
Coordinator: Dr Siksna.
Assessment: Report.
One-week field trip to Canberra & Sydney CBD studying innovative examples of urban design — new towns, residential areas, commercial centres, community facilities, streetscape improvements & redevelopment projects. Trip held in mid-semester break. Additional fee payable.

GN 361 Integrated Planning Projects 3
#10 (3P) Year
Pre: GN 260 Inc: GN 360
Coordinator: Dr Siksna.
Assessment: Practical projects.
Practical work on complex planning problems designed to integrate subject material covered in third year of course; generally involves projects dealing with metropolitan, regional or city centre planning issues.

GN 362 Real Estate Law
#10 (3C) 2nd
Inc: QB250
Coordinator: Mr Elliott.
Assessment: Tutorial tests, assignments & examination.
Concepts of property & effects of doctrine of tenure, title & property rights upon valuation practice & the property industry.

GN 363 Real Estate Investment
#10 (3C) 2nd
Inc: QB225 or 246
Coordinator: Mr Elliott.
Assessment: Tutorial tests, assignments & examination.
GN364 Real Estate Development Planning
#10 (3C) 1st
Inc: GN308 or QB244
Coordinator: Dr Wadley.
Assessment: Tests & assignments.

GN365 Real Estate Management
#10 (3C) 2nd
Inc: QB244
Coordinator: Mr Elliott.
Assessment: Tutorial tests, assignments & examination.
Management of real estate with particular reference to apartments & residential property. The role of the property or facility manager. Examination of real estate agency law & contract of sale of land.

GN366 Development Appraisal Project
#10 (3C) 1st
Coordinator: Mr Elliott.
Assessment: Group & individual reports.
Detailed interdisciplinary investigation of a project in one or more property sectors. Investment, valuation, design, planning, development & legal considerations. Preparation of financial & marketing reports.

GN370 Planning Law
#10 (2L) 1st
Coordinator: Dr Siksna.
Assessment: Examination.
Legal system. Land development, planning & environmental law including statutory planning procedures, compensation, rezoning, subdivision, control under planning schemes, non-conforming uses, appeals, rights & jurisdiction of Local Government Court.

GN381 Measuring Systems IE
#8 (2L <2P) 1st
Inc: SY311 or 391
Coordinator: Dr Dowideit.
Assessment: Practicals & examination.
Horizontal, angular & vertical measurement, precise techniques, error models & adjustment, specifications, horizontal & vertical curves, route location. Instrumentation involves theodolites, levels, electronic & direct distance measurement.

GN384 Surveying Systems IC
#5 (<2L) 2nd
Inc: SY314 or 394
Coordinator: Dr Dowideit.
Assessment: Assignment & examination.
Figure of earth, 2 & 3D coordinates & positioning systems, approaches for calculations on ellipsoid & projections. Structure of land information systems & characteristics of subsystems, land tenure & remote sensing systems. Photogrammetry & hydrographic surveying.
GN 385 Surveying Project IC
#4 2nd
Pre: GN 381 or SY 311 or 391 Inc: SY 315 or 395
Coordinator: Dr Dowideit.
Assessment: Field work & reports.
Collection, processing, analysis & presentation of field & office data during one week under tuition. Normally run in mid-year break in July.

GN 386 Surveying IM
#12 (2L2P in 1st semester, 1 week tuition, plus on demand via Telnet and email in 2nd semester) Year
Inc: GN 381 or 383
Coordinator: Dr Dowideit.
Assessment: Examination, practical work, assignment & survey project.
Basic knowledge & practical skills in surveying principles & techniques. Surveying instrumentation & calculations with general engineering & specifically mining surveying applications. Professional & practical approaches to surveying. Formal teaching & basic practicals in 1st semester & comprehensive survey project & reading assignment in 2nd semester.

GN 387 Surveying Systems
#5 (2L) 2nd
Comp: GN 381 or 386 Inc: GN 382 or 384
Coordinator: Dr Dowideit.
Assessment: Assignments & examination.
Overview & introduction into most important areas of “Geomatics”: geography, land surveying, mapping, geodesy, photogrammetry & hydrography, together with newer disciplines of remote sensing, GIS & Global & Inertial Positioning Systems. Basic principles behind these disciplines application to mining & civil engineering.

GN 390 Sustainable Development 2
#12 (3L2T) 1st
P: GN 290
Theoretical understanding of disciplines that are integrated to achieve sustainable development. Emphasis on economics & ecology & frameworks to permit integration.

GN 398 Field Excursion (Sustainable Development)
#12 2nd
Inc: NR 325 P: GN 390
Practical context for examination of principles of sustainable development put into practice in a range of human activities, environments & industries. Field excursion during July break. Additional fee payable.

GN 399 Industrial Placement (Sustainable Development)
[For BEnvMan(SusDev) only]
#24 2nd
P: GN 390
A period of 16 weeks continuous, structured, course-related experience in organisations involved in sustainable development. Additional fees may be payable.
GN 401 Honours Thesis  
#60 Year  
C: GN411  
Coordinators: Assoc. Prof. Auliciems & Dr Phinn.  
Assessment: Thesis.

GN 411 Research Implementation  
#10 Year  
Inc: GN410  
Assessment: Essay.  
Research design & strategies for data acquisition; research project management & report preparation.

GN 413 Applied Regional & Urban Analysis  
#10 (2C) 1st  
Inc: ID811  
Coordinators: Dr Smith & Dr Wadley.  
Assessment: Assignments & examination.  

GN 419 Environmental Science Project  
#40 Year  
Comp: SC408  
Coordinator: Dr Neil.  
Assessment: Thesis.

GN 461 Group Project  
#20 1st  
Pre: #210  
Coordinator: Dr Smith.  
Integration of course subject material through major real-life project conducted in group, usually involving preparation of development control plan or strategic plan in conjunction with planning authority or community group.

GN 463 Planning Thesis  
[For BRTP only]  
#60 Year (May commence 2nd)  
Comp: GN411 Inc: GN460  
Coordinator: Dr Smith.  
Individual research thesis or topic providing opportunity to specialise in particular aspects of planning to gain experience in undertaking substantial research projects.

GN 466 Advanced Real Estate & Development Project  
[For BBus(Real Estate & Development) Honours only]  
#30 (2C) 2nd  
Coordinator: Mr Elliott.  
Individual research or commercial project in real estate & development professionally presented to industry level standards. Additional fees payable.

GN 469 Advanced Planning Study
Individual planning study or research topic providing an opportunity to specialise in a particular aspect of planning.

**GN 471 Advanced Planning Theory & Practice**

[For BRTP only]

#10 (C3) 1st

Coordinator: Mr Fagence.

Assessment: Seminar presentation, assignment & examination.

Examination of interaction of current theory & professional practice.

**GN 490 Geography IV H**

#100 Year

**GN 495 Sustainable Development Case Studies**

NOT 2000

#24 (2L1T1P) Year

P: GN399 Inc: NR311 or 402

Applied case studies in sustainable development with emphasis on ecological economics, ecological footprinting, multi-criteria analysis, sustainability criteria & reporting.