

## EuroAqua+ Curriculum

### Basic acquisitions / soft skills: offered by UNS / BTU / UPC – Semester 1 / Year 1 (30 ECTS)

Code	Module Title	Com/Opt	Location	Credits
1.1	Mathematics & Physics	C	UNS, BTU, UPC	6 ECTS
1.2	Hydrology & Hydraulics	C	UNS, BTU, UPC	6 ECTS
1.3	Introduction to water and aquatic environment management	C	UNS, BTU, UPC	6 ECTS
1.4	Computer skills, databases & GIS – ICT	C	UNS, BTU, UPC	6 ECTS
1.5	Web-based collaborative engineering	C	UNS, BTU, UPC	4 ECTS
1.6	Communication & European Language skills	C	UNS, BTU, UPC	2 ECTS

### Hydroinformatics: offered by NU – Semester 2 / Year 1 (30 ECTS)

Code	Module Title	Com/Opt	Location	Credits
2.1	Integrated River Basin Management	C	NU	5 ECTS
2.2	Hydroinformatics Systems Development	C	NU	5 ECTS
2.3	Computational Hydraulics	C	NU	5 ECTS
2.4	Modelling and Forecasting of Floods	C	NU	5 ECTS
2.5	Climate Change: Vulnerability, Impacts & Adaptation	C	NU	5 ECTS
2.6	Writing Dissertations in Science and Engineering	C	NU	5 ECTS

### Thematic specialisation “Hydroinformatics for Urban Smart Water Systems”: offered by UNS – Semester 3 / Year 2 (30 ECTS)

Code	Module Title	Com/Opt	Location	Credits
3.1	Modelling methods for urban waters (sewage network, floods and waste waters)	C	UNS	5 ECTS
3.2	Methods for water supply and waste waters treatment	C	UNS	3 ECTS
3.3	Economical and legal environments - Water industry & municipalities	C	UNS	5 ECTS
3.4	Project Management for smart water solutions	C	UNS	5 ECTS
3.5	European Language II skills & Communication	C	UNS	3 ECTS
3.6	HydroEurope - Working as virtual company/institute	C	UNS	6 ECTS
3.7	Pre professional training OR Research Methodology	O	UNS	3 ECTS

### Thematic specialisation “Hydroinformatics Systems”: offered by BTU – Semester 3 / Year 2 (30 ECTS)

Module Code	Module Title	Com/Opt	Location	Credits
3.1	Numerical simulation: free-surface and groundwater modelling	C	BTU	6 ECTS
3.2	Modelling Process in Hydroengineering	C	BTU	6 ECTS
3.3	Information management in Hydroinformatics Systems	C	BTU	6 ECTS
3.4	European Language II skills & Communication	C	BTU	3 ECTS
3.5	Hydro-Europe Working as virtual company/institute	C	BTU	6 ECTS
3.6	Pre professional training OR Research Methodology	O	BTU	3 ECTS

### Thematic specialisation “Decision support systems for Water Uses Optimisation”: offered by UPC – Semester 3 / Year 2 (30 ECTS)

Module Code	Module Title	Com/Opt	Location	Credits
3.1	Artificial neural network for Decision Support Systems (DSS)	C	UPC	3 ECTS
3.2	Flood risk concepts and application in river basin management	C	UPC	5 ECTS
3.3	DSS for flood risk in urban areas	C	UPC	5 ECTS
3.4	Real time control and operation of irrigation canals, rivers and reservoirs	C	UPC	5 ECTS
3.5	European Language II skills & Communication	C	UPC	3 ECTS
3.6	HydroEurope - Working as virtual company/institute	C	UPC	6 ECTS
3.7	Pre professional training OR Research Methodology	O	UPC	3 ECTS

### Thematic specialisation “Hydroinformatics Systems for Groundwater Management”: offered by WUT – Semester 3 / Year 2 (30 ECTS)

Module Code	Module Title	Com/Opt	Location	Credits
3.1	Elements of hydrogeology	C	WUT	3 ECTS
3.2	Groundwater flow and transport modeling	C	WUT	5 ECTS
3.3	Hydroinformatics for groundwater management and optimization	C	WUT	5 ECTS
3.4	Groundwater protection	C	WUT	5 ECTS
3.5	European Language II skills & Communication	C	WUT	3 ECTS
3.6	HydroEurope - Working as virtual company/institute	C	WUT	6 ECTS
3.7	Pre professional training OR Research Methodology	O	WUT	3 ECTS

### Professional practice: offered by UNS/BTU/UPC/WUT – Semester 4 / Year 2 (30 ECTS) or Research & Development Project: offered by UNS/BTU/UPC/WUT – Semester 4 / Year 2 (30 ECTS)

Module Code	Module Title	Com/Opt	Location	Credits
4.1	Professional practice at a company OR Research & Development Project	C	BTU	6 ECTS

