

Summary of OSU Certificate Programs as of January 2018

College/Dpt	Name	Start	# awarded since inception (#/yr)	Age from Fall of first year to Sp18)	Ecampus	Onsite	# required Credits	Identifiers for required courses	Identifiers for required electives	Comments	Admission standard *
CEOAS	Marine Resources Management	Su 2008; closed F 2017	13		no	yes	23 (18)	MRM	MRM, AEC, ANTH, COMM, FW, PS, SOC, ATS, OEAS,	While it says 18 credits are required, the required courseload totals to 23	Regular
Education	Teaching English to speakers of other Languages	inactive as of 9/1/2008 pending revision	13								n/a
Public Health / SOBE	Health Management and Policy	Sp 2006 - inactive	3								allowed less than 3.0 GPA
Public Health and HS	Health Care Administration (not active)	F 2004 - inactive - replaced by HMP									n/a
Science	Management for Science Professionals	F 2010 inactive	7								Regular
Agriculture/F&W	Fisheries Management	Su 2008	78 (7.8)	10	yes	yes	18	FW	FW,PS,SNR,AEC, ANTH, COMM, FES, SOC, FE, OEAS,TOX	capstone required	Regular
Agriculture/F&W	Wildlife Management	Su 2015	36 (12)	3	yes	yes	18	FW	FW, PS, SNR,	capstone required; prior to SU18 there was a wider variety of courses	Regular
Business	Business Analytics	Su 2015	5 (1.7)	3	yes	yes	21	BA	none		Website: 3.0 GPA required; notes indicate 2.75 was originally acceptable
Business	Financial Planning	Su2017	n/a	1	yes	yes	23	BA, FIN, MRKT	none		Regular
CEOAS	Geographic Information Science	W 2005	219 (16.8)	13	yes	yes	23	GEOG	GEOG, OC, GEO, CS, CE, ST,H, FE, FOR, SOIL		Regular
CEOAS	Water Conflict, Management and Transformation	Su 2008	73 (7.3)	10	yes	yes	18	COMM, WRP	COMM, WRP, AEC, FOR, GEOG, PS, ANTH, ENVE, H, PHIL, PS, SNR, SOC, BEE, FE, FW, MNR, WRS, AEC,	capstone required	Regular
Forestry/FES	Forests and Climate Change	Su/F 2015	2 (0.7)	3	yes	some	19	FES, MNR, SNR	FOR, SNR		Regular
Forestry/FES	Sustainable Natural Resources	Su 2004	55 (3.9)	14	yes	no	18	SNR	SNR		Regular
Forestry/FES	Urban Forestry	F 2014	14 (3.5)	4	yes	no	18-20	FES, SNR	FES, SNR,FW, GEOG, TRAL		Regular
Graduate School	College and University Teaching	W 2013	85 (17.0)	5	yes	yes	18	GRAD	GRAD, AED, BI, CH, ED, ENGR, ES, LEAD, PSY, SED, TOX, WGSS, WLC, WR	required capstone portfolio and internship	Regular
Public Health and HS	Public Health	Su 2012	34 (5.7)	6	yes	yes	20	H	H		Program decides if GPA is acceptable. GS verifies only prior acceptable degree
Science/Statistics	Data Analytics	F 2016	n/a	2	yes	no	18	ST			Regular

\*Regular = applicants must meet regular OSU graduate GPA, TOEFL, accreditation standards. Certificate students who later wish to begin a master's program can submit a change of degree/major form since they have undergone a full review

## Summary of Graduate Certificates, January 2018

Name	Sustainable Natural Resources
Long name	Sustainable Natural Resources
Proposal number	Initial proposal #99
Initial	
Revised	Updated by #99357 Spring 2017
Major code	CG01
CIPC code	03.0101
Dept code	FES
Start Term	Summer 2004
Status as of Jan. 2018	active
Web site	<a href="http://ecampus.oregonstate.edu/online-degrees/graduate/sustainable-natural-resources/">http://ecampus.oregonstate.edu/online-degrees/graduate/sustainable-natural-resources/</a>
Contact information	Badege Bishaw, program director <a href="mailto:Badege.bishaw@oregonstate.edu">Badege.bishaw@oregonstate.edu</a> 541-737-9495
Catalog details	<p><a href="http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG01&amp;college=05">http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG01&amp;college=05</a> Available via <a href="#">Ecampus</a> only.</p> <p>The Sustainable Natural Resources graduate certificate is an 18-credit interdisciplinary program offered online through OSU Extended Campus. Students have a choice among 12 courses designed to build personal and organizational capacity to examine the many aspects of natural resource problems—environmental, economic, and social—in the search for innovative solutions. <i>The courses are organized into three main sections: integration, human dimensions, and ecology and management of sustainable natural resources.</i> All courses in the certificate program are integrated through a student-designed capstone project that addresses a specific sustainability problem in the student’s own organization or region. Throughout the program, students will work with faculty members and other students, and under the guidance of an assigned mentor to design and complete the project.</p> <p>Traditional university training provides rigor in individual disciplines. However, natural resource problems require synthesis of multiple perspectives and fields of knowledge. In addition, natural resource problems can be international in scope. Globalization clearly reveals how decisions and practices in any part of the world affect natural resources elsewhere and highlights a need for natural resource professionals who can apply multidisciplinary systems-thinking to address these complex issues. The SNR graduate certificate program is designed to meet that need.</p>

By offering this program as an online series of courses, it is possible for people from around the world to participate and to receive their graduate certificate without having to take a leave of absence from their work. The opportunity to collaborate with natural resource managers or graduate students from other regions or countries offers all participants a broader perspective on management issues and potential solutions.

For additional information and advising, contact **Badege Bishaw**, Program Director, 208 Richardson Hall, Oregon State University, Corvallis, OR 97331; 541-737-9495, [badege.bishaw@oregonstate.edu](mailto:badege.bishaw@oregonstate.edu).

More information, including international admissions requirements, may also be found at <http://ecampus.oregonstate.edu/online-degrees/graduate/sustainable-natural-resources/>.

### **Required courses (12 credits)**


- SNR 506. Independent Project in Natural Resource Sustainability (2)
- SNR 511. Sustainable Natural Resource Development (1)
- SNR 520. Social Aspects of Sustainable Natural Resources (3)
- SNR 521. Economics of Sustainable Natural Resource Management (3)
- SNR 530. Ecological Principles of Sustainable Natural Resources (3)

### **Elective courses (6 credits)**

*Select at least 2 or 3 courses for a minimum 6 credits from below:*

- SNR 522. Basic Beliefs and Ethics in Natural Resources (3)
- SNR 531. Sustainable Silviculture and Forest Certification (3)
- SNR 532. Planning Agroforestry Projects (2)
- SNR 533. Alternative (Non-Timber) Forest Products (2)
- SNR 534. Reduced Impact Timber Harvest (2)
- SNR 535. Sustainable Management of Aquatic and Riparian Resources (3)
- SNR 540. Global Environmental Change (3)

Total=18

 - Signifies that the Major/Option can be completed thru Ecampus - Distance Ed

Application process

Current OSU students can add this certificate by completing the change of major/degree form.

	<p>External applicants submit OSU grad application, transcripts, TOEFL if international, to the Graduate School.</p>
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Must meet regular GPA standards, accreditation and TOEFL standards.

Certificate students who later want to begin a master's program can submit the change of degree/major form since they have already undergone a full admissions review.

Name	Health Care Administration
Long name	Health Care Administration
Proposal number	#113 (later renamed by proposal 134 and became Health Mgt and Policy)
Major code	CG02
CIPC code	51.0701
Dept code	H (check)
Start Term	Fall 2004
Status as of Jan. 2018	This certificate was active only briefly, until replaced by the Health Care Management and Policy Certificate (CG05)
Web site	n/a
Contact information	n/a
Catalog details	n/a
Application process	Not admitting applicants

Name	Geographic Information Science
Long name	Geographic Information Science
Proposal number	#108
Major code	CG03
CIPC code	45.0799
Dept code/College	CEOAS
Start Term	Winter 2005
Status as of Jan. 2018	Active
Web site	<a href="http://ceoas.oregonstate.edu/giscience/">http://ceoas.oregonstate.edu/giscience/</a>
Contact information	Kuuiipo Walsh, program director <a href="mailto:kuuiipo.walsh@oregonstate.edu">kuuiipo.walsh@oregonstate.edu</a> 541-737-3795
	<a href="http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG03&amp;college=24">http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG03&amp;college=24</a>  <b>Kuuiipo Walsh, Director</b> GIScience Certificate Program 134 Wilkinson Hall College of Earth, Ocean, and Atmospheric Sciences Oregon State University Corvallis, OR 97331 541-737-3795 FAX 541-737-1200 Email: <a href="mailto:kuuiipo.walsh@oregonstate.edu">kuuiipo.walsh@oregonstate.edu</a> Website: <a href="http://ceoas.oregonstate.edu/giscience/">http://ceoas.oregonstate.edu/giscience/</a>  <b>Also available via <a href="#">Ecampus</a>.</b>  Oregon State University offers an undergraduate and graduate certificate in Geographic Information Science. Geographic Information Science (GIScience) is a discipline that combines theory and principles underlying: <ul style="list-style-type: none"> <li>• geospatial data collection (remotely sensed imagery from satellites, aircraft, and drones, social media, telemetry, GPS, etc.);</li> <li>• technologies to manage, analyze, and visualize geospatial data (geographic information systems);</li> <li>• computational, statistical, and mathematical methods to analyze and model geospatial data (machine learning, Big Data, spatial statistics, spatial modeling, geovisual analytics, etc.);</li> <li>• digital cartography and geovisualization (the science and practice of creating maps); and</li> <li>• cognitive, social and environmental implications of GIScience (professional ethics, privacy, digital divide, etc.).</li> </ul> The OSU GIScience certificate can help lead to certification as a nationally-recognized geographic information systems (GIS)

professional (GISP). GIS professionals are in high demand for jobs in government, NGOs, and the private sector, and have rewarding careers in natural resource management, online and interactive mapping, business, planning, and many others.

Students must have completed the following background course or have equivalent experience: introductory cartography (GEOG 370). This course can either be completed prior to starting the certificate program or pursued in tandem with the other courses in the certificate.

*Background Course*

GEOG 370. Geovisualization: Cartography (4) **EC**

*Required Core (8 credits)*

GEOG 560. GIScience I: Introduction to Geographic Information Science (4) **EC**

GEOG 580. Remote Sensing I: Principles and Applications (4) **EC**

*Electives (11 credits)*

CE 513. GIS in Water Resources (3)

CE 562. Digital Terrain Modeling (4)

CE 566. 3D Laser Scanning and Imaging (4)

CS 553. Scientific Visualization (4)

CS 554. Geometric Modeling in Computer Graphics (4)

FE 523. Unmanned Aircraft System Remote Sensing (3)

FOR 510. Internship (*1 or more credits, advisor approval*)

**or** GEOG 510. Internship (*1 or more credits, advisor approval*) **EC**

GEOG 551. Planning Principles and Practices for Resilient Communities (4)

GEOG 561. GIScience II: Analysis and Applications (4) **EC**

GEOG 562. GIScience III: Programming for Geospatial Analysis (4) **EC**

GEOG 563. GIScience IV: Spatial Modeling (4)

GEOG 564. Geospatial Perspectives on Intelligence, Security, & Ethics (3) **EC**

GEOG 565. Spatio-Temporal Variation in Ecology and Earth Science (4)


GEOG 566. Advanced Spatial Statistics and GIScience (4)

GEOG 571. Geovisualization: Web Mapping (4)

GEOG 572. Geovisualization: Geovisual Analytics (3)

GEOG 581. Remote Sensing II: Digital Image Processing (4)

H 547. GIS and Public Health (3)

	<p>H 592. Spatial Epidemiology (3)  OC 678. Ocean Remote Sensing (4)  SOIL 568. Soil Landscape Analysis (4)  ST 565. Time Series (3)  ST 567. Spatial Statistics (3)</p> <p>The following courses may count towards elective credits after consulting with and receiving approval from the program director:</p> <p>CE 501. Research (3–4)  CE 560. Selected Topics in Geomatics Engineering (3–4)  CS 519. Topics in Computer Science (3–4)  CS 549. Selected Topics in Information-Based Systems (3–4)  GEO 501. Research (3–4)  GEOG 501. Research (3–4)  GEOG 599. Special Studies (3–4)  GEOG 699. Special Studies (3–4)</p> <p>Footnote:</p> <p><b>EC=</b> Delivered via Ecampus</p> <p> - Signifies that the Major/Option can be completed thru Ecampus - Distance Ed</p>
<p>Application process</p>	<p>Current OSU students can add this certificate by completing the change of major/degree form.</p> <p>External applicants submit OSU grad application, transcripts, TOEFL if international, to the Graduate School.</p> <p>Must meet regular GPA standards, accreditation and TOEFL standards.</p> <p><b>Certificate students who later want to begin a master's program can submit the change of degree/major form since they have already undergone a full admissions review.</b></p>



Name	TESOL
Long name	Teaching English to Speakers of Other Languages
Proposal number	#105
Major code	CG04
CIPC code	131401
Dept code/College	ED.
Start Term	Summer 2005
Status as of Jan. 2018	Inactive as of 9/1/2008, revival proposal pending
Web site	<u>n/a</u>
Contact information	<u>n/a</u>
Catalog details	<u>n/a</u>
Application process	<u>n/a</u>

Name	Health Management and Policy
Long name	Health Management and Policy
Proposal number	#134 (formerly named Health Care Admin, policy #113)
Major code	CG05
CIPC code	51.0701
Dept code/College	SOBE
Start Term	Spring 2006
Status as of Jan. 2018	Inactive
Web site	<u>n/a</u>
Contact information	Marie Harvey
Catalog details	n/a
Application process	This certificate did not require a full admissions review and accepted applicants with less than a 3.00 GPA. Advancement to a master's or doctoral degree required a new application form

Name	Water Conflict Mgmt and Transf
Long name	Water Conflict Management and Transformation
Proposal number	#147
Major code	CG06
CIPC code	03.0205
Dept code/College	CEOAS
Start Term	Summer 2008
Status as of Jan. 2018	Active
Web site	<a href="http://www.transboundarywaters.orst.edu/training/index.htm">http://www.transboundarywaters.orst.edu/training/index.htm</a>
Contact information	Lynette de Silva <a href="mailto:desilvai@geo.oregonstate.edu">desilvai@geo.oregonstate.edu</a> 541-737-7013
Catalog details	<p><b>Lynette de Silva, Director</b>  Program in Water Conflict Management and Transformation  Oregon State University  College of Earth, Ocean, and Atmospheric Sciences  256 Wilkinson Hall  Corvallis, OR 97331  Phone: 541-737-7013  Fax: 541-737-1200  Email: <a href="mailto:desilval@geo.oregonstate.edu">desilval@geo.oregonstate.edu</a>  Web: <a href="http://www.transboundarywaters.orst.edu/">http://www.transboundarywaters.orst.edu/</a></p> <p><b>Also available via <a href="#">Ecampus</a>.</b></p> <p>The graduate certificate in Water Conflict Management and Transformation is an 18-credit interdisciplinary program. It is designed to provide graduate students, non-degree students, water professionals and decision-makers with the required specialized resources and skills to address the water demands and challenges of the 21st Century, in Oregon, across the United States and internationally.</p> <p>The curriculum centers around case-based, interactive course and field work to provide an in-depth look at water conflict, conflict transformation, and prevention issues and strategies across four distinct and overlapping themes:</p> <ul style="list-style-type: none"> <li>• Water Governance</li> <li>• Water and Ecosystems</li> <li>• Water and Society</li> <li>• Water and Economics</li> </ul>

Each theme incorporates several topics critical to understanding water conflicts.

The curriculum for the graduate certificate in Water Conflict Management and Transformation is as follows:

**Capstone Course Work (3 credits required)**

COMM 542. Bargaining and Negotiation Processes (3)  
COMM 546. Communication in International Conflict and Disputes (3)  
WRP 521. Water Conflict Management and Transformation (3)

**Capstone Practicum/Internship (3 credits required)**

WRP 509. Practicum (3)  
WRP 510. Internship (3)

**Water Governance (3 credits required)**

AEC 532. Environmental Law (4)  
COMM 540. Theories of Conflict and Conflict Management (3)  
FOR 562. Natural Resource Policy and Law (3)  
FOR 563. Environmental Policy and Law Interactions (3)  
GEOG 540. Water Resources Management in the United States (3)  
GEOG 541. International Water Resources Management (3)  
PS 575. Environmental Politics and Policy (4)  
PS 577. International Environmental Politics and Policy (4)  
WRP 599. Special Topics: *Oregon Water Law and Policy* (3)

**Water and Society (3 credits required)**

ANTH 581. Natural Resources and Community Values (4)  
ENVE 531. Fate and Transport of Chemicals in Environmental Systems (4)  
ENVE 532/OC 532. Aquatic Chemistry: Natural and Engineered Systems (4)  
ENVE 554. Groundwater Remediation (4)  
ENVE 556. Sustainable Water Resources Development (3)  
FES 585. Consensus and Natural Resources (3)  
GEOG 530. Resilience-Based Natural Resource Management (3)  
H 512. Introduction to Environmental & Occupational Health Sciences (3)  
H 514. Environment, Safety and Health Seminar (1)  
H 527. Critical Assessment of International Health Programs (3)  
H 528. Global Health Issues (3)

H 529. International Health (3)  
H 540. Water and Human Health (3)  
H 541. Air Quality and Human Health (3)  
PHL 540. Environmental Ethics (3)  
PHL/REL 543. World Views and Environmental Values (3)  
PS 577. International Environmental Politics and Policy (4)  
SNR 520. Social Aspects of Sustainable Natural Resources (3)  
SOC 580. Environmental Sociology (4)  
SOC 581. Society and Natural Resources (4)  
WRP 524. Sociotechnological Aspects of Water Resources (3)

**Water and Ecosystems (3 credits required)**


BEE 512. Physical Hydrology (3)  
BEE 558. Nonpoint Source Pollution Assessment and Control (3)  
FE 530. Watershed Processes (4)  
FE 532. Forest Hydrology (4)  
FW 526. Coastal Ecology and Resource Management (5)  
FW 579. Wetlands and Riparian Ecology (3)  
GEOG 523. Snow Hydrology (3)  
MNR 511. Introduction to Sustainable Natural Resources (3)  
SNR 530. Ecological Principles of Sustainable Natural Resources (3)  
SNR 540. Global Environment Change (3)  
WRS 532. Applied Field Problems (3)  
WRS 536. Fundamentals of Hydrology (3)

**Water and Economics (3 credits required)**

AEC 505. Reading and Conference (3)  
or AEC 507. Seminar (3)  
AEC 534. Environmental and Resource Economics (3)  
AEC 550. Environmental and Natural Resource Economics (4)  
AEC 551. Applications of Environmental and Natural Resource Economics (4)  
SNR 521. Economics of Sustainable Natural Resource Management (3)  
WRP 523. Environmental Water Transactions (3)  
WRP 599. Special Topics: *The Business of Water* (3)

*Total=18*

Advisor guidance and approval is required for each student's certificate program of study. All students seeking a graduate certificate are subject to all general policies governing the courses for the master's degree. As such, these students will be required to take a

	<p>minimum of 50% graduate stand-alone courses. The remaining credits may be the 500 component of 400/500 slash courses.</p> <p>Non-degree students, and those requiring additional information and advising should contact Lynette de Silva at <a href="mailto:desilval@geo.oregonstate.edu">desilval@geo.oregonstate.edu</a>.</p> <p> - Signifies that the Major/Option can be completed thru Ecampus - Distance Ed</p>
Application process	<p>Current OSU students can add this certificate by completing the change of major/degree form.</p> <p>External applicants submit OSU grad application, transcripts, TOEFL if international, to the Graduate School.</p> <p>Must meet regular GPA standards, accreditation and TOEFL standards.</p> <p>Certificate students who later want to begin a master's program can submit the change of degree/major form since they have already undergone a full admissions review.</p>

Name	Marine Resource Management
Long name	Marine Resource Management
Proposal number	#158
Major code	CG07
CIPC code	03.0205
Dept code/College	CEOAS
Start Term	Summer 2008
Status as of Jan. 2018	<b>As of fall 2017, not accepting new applications.</b>
Web site	<a href="http://ceoas.oregonstate.edu/academics/mrmcert/">http://ceoas.oregonstate.edu/academics/mrmcert/</a>
Contact information	Lori Hartline, MRM Advisor <a href="mailto:hartline@coas.oregonstate.edu">hartline@coas.oregonstate.edu</a> 541-737-5188
Catalog details	<p><a href="http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG07&amp;college=24">http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG07&amp;college=24</a></p> <p>The management of our marine resources encompasses both biophysical and human dimensions. Marine management professionals need to understand these dimensions, utilizing both physical and social sciences to tackle challenging issues, and effectively communicate best management practices to scientists, decision makers, and stakeholders.</p> <p>The Marine Resource Management graduate certificate offers a blend of science- and management-oriented courses that prepare participants (professionals, decision-makers, and graduate students) to become leaders in marine resource management.</p> <p><b>Certificate Overview and Requirements:</b></p> <ul style="list-style-type: none"> <li>• Completion of core courses in marine policy and law,</li> <li>• Two courses from the human dimensions area, and</li> <li>• Two courses from the ocean and coastal science area.</li> </ul> <p><i>Course Examples:</i></p> <ul style="list-style-type: none"> <li>• Ocean Law</li> <li>• Rights-Based Fisheries Management</li> <li>• Ecological Policy</li> <li>• Physical Oceanography</li> <li>• Marine Pollution</li> </ul> <p><b>Current graduate students</b> must notify the Marine Resource Management program of their intention to pursue this certificate. Upon consultation with MRM faculty, they will be given instructions</p>

regarding listing courses on their programs of study and obtaining the required signature for that form.

**Professionals and other students** must notify the Marine Resources Management program of their intention to pursue this certificate.

Contact Robert Allan, 541-737-1340, [rallan@coas.oregonstate.edu](mailto:rallan@coas.oregonstate.edu), for more information.

*Required Courses*

MRM 520. Coastal Law (3)

or MRM 521. Ocean Law (3)

MRM 530. Principles and Practice of Marine Resource Management (3)

*Human Dimensions Subject Area*

***Select 2 courses for at least 6 credits from below:***

AEC 534. Environmental and Resource Economics (3)

ANTH 581. Natural Resources and Community Values (4)

COMM 540. Theories of Conflict and Conflict Management (3)

COMM 542. Bargaining and Negotiation Processes (3)

COMM 544. Third Parties in Dispute Resolution: Mediation/Arbitration (3)

FW 520. Ecology and Management of Marine Fishes (3)

FW/BI 564. Marine Conservation Biology (3)

FW 620. Ecological Policy (3)

MRM 535. Rights-Based Fisheries Management (3)

PS 575. Environmental Politics and Policy (4)

PS 577. International Environmental Politics and Policy (4)

SOC 580. Environmental Sociology (4)

SOC 581. Society and Natural Resources (4)

*Ocean and Atmospheric Systems Science Subject Area*

***Select 2 courses for at least 6 credits from below:***

ATS 520. Principles of Climate: Physics of Climate and Climate Change (4)

FW 531. Dynamics of Marine Biological Resources (4)

OC 533. Coastal and Estuarine Oceanography (3)

OEAS 520. The Solid Earth (4)

OEAS 530. The Fluid Earth (4)

OEAS 540. The Biogeochemical Earth (4)



	<p><i>Total=18 credits</i></p> <p>Other courses may be substituted upon approval of the certificate director.</p> <p><b>Note:</b> The Marine Resource Management graduate certificate is not eligible for federal financial aid if it is not part of a master's degree-seeking program. The certificate is not eligible if taken as a stand-alone program. The MRM graduate certificate is eligible for federal financial aid if it is part of a master's degree-seeking program.</p>
<p>Application process</p>	<p>Current OSU students can add this certificate by completing the change of major/degree form.</p> <p>External applicants submit OSU grad application, transcripts, TOEFL if international, to the Graduate School.</p> <p>Must meet regular GPA standards, accreditation and TOEFL standards.</p> <p>Certificate students who later want to begin a master's program can submit the change of degree/major form since they have already undergone a full admissions review.</p>

Name	Fisheries Management
Long name	Fisheries Management
Proposal number	Original 83459; update 101723, effective summer 2018
Major code	CG08
CIPC code	03.0301
Dept code/College	Fisheries and Wildlife, College of Agricultural Sciences
Start Term	Summer 2008
Status as of Jan. 2018	Active
Web site	<a href="https://fw.oregonstate.edu/fisheries-and-wildlife/fisheries-or-wildlife-management-graduate-certificate">https://fw.oregonstate.edu/fisheries-and-wildlife/fisheries-or-wildlife-management-graduate-certificate</a>
Contact information	Bruce Dugger, Director Bruce.dugger@oregonstate.edu 541-737-2465 Susie Dunham, program coordinator <a href="mailto:Susie.dunham@oregonstate.edu">Susie.dunham@oregonstate.edu</a> 541-737-2642
Revised catalog details effective summer 2018, proposal 101723  Original requirements from proposal 83459 follow this section.	<p>The certificate requires:</p> <ul style="list-style-type: none"> <li>• A minimum of 5 courses and 18 credits of total coursework;</li> <li>• A Capstone Project (applying knowledge and skills to a fisheries management issue), equivalent in time and effort to a 3-credit course (FW 506 Projects);</li> <li>• One Core course (FW 554 Fishery Biology);</li> <li>• A minimum of one course from the Human Dimensions area;</li> <li>• Two to three courses from the Fisheries Sciences and Management Subject Area</li> <li>• For further information, please see our website or email: <a href="mailto:fw.gradadvising@oregonstate.edu">fw.gradadvising@oregonstate.edu</a>.</li> </ul> <p>Courses are offered through Corvallis, at Hatfield Marine Science Center, and through Ecampus. Check the course catalog and schedule of classes for location and term offered.</p> <p><b>Capstone project - required</b></p> <p>FW 506. Projects (3)</p> <p><b>Core - required</b></p> <p>FW 554. Fishery Biology (4)</p> <p><b>Human Dimensions Subject Area (select 1 course):</b></p> <p>FW 515. Fisheries and Wildlife Law and Policy (3) FW 522. Introduction to Ocean Law (3) FW 560. Psychology of Environmental Decisions (3)</p>

	<p>FW 620. Ecological Policy (3)  PS 577. International Environmental Politics and Policy (4)  SNR 520. Social Aspects of Sustainable Natural Resources (3)</p> <p><b>Fisheries Sciences and Management Subject Area (select 2-3 courses):</b></p> <p><i><b>Fish science and management:</b></i>  FW 514 Professional Development: Meeting Communications (1)  FW 519. The Natural History of Whales and Whaling (3)  FW 520. Ecology and Management of Marine Fishes (3)  FW 524. Introduction to Fisheries Assessment (3)  FW 531. Dynamics of Marine Biological Resources (4)  FW 549. History of Fisheries Science (3)  FW 564. Marine Conservation Biology (3)  FW 565. Marine Fisheries (4)  FW 571. Environmental Physiology of Fishes (4)  FW 573. Fish Ecology and Conservation (4)  FW 574/OC 574. Early Life History of Fishes (4)  FW 576. Fish Physiology (4)  FW 597. Aquaculture (3)</p> <p><i><b>Aquatic science, habitat restoration, and management:</b></i>  FW 521. Aquatic Biological Invasions (4)  FW 526. Coastal Ecology and Resource Management (5)  FW/OC 534. Estuarine Ecology (4)  FW/FES 545. Ecological Restoration (4)  FW 556. Freshwater Ecology and Conservation (5) (Pending Approval)  FW 562. Ecosystem Services (3)  FW 579. Wetlands and Riparian Ecology (3)  FW 580. Stream Ecology (3)</p> <p><i>Total = minimum of 18 credits</i></p>
Catalog details	<p><a href="http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG08&amp;college=01">http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG08&amp;college=01</a></p> <p><b>Also available via <a href="#">Ecampus</a>.</b></p> <p>Fisheries management is facing unprecedented challenges. Scientists, decision makers, and stakeholders must work together to rebuild over-fished stocks, implement ecosystem-based approaches, design global fisheries agreements, sustain coastal fishing communities,</p>

reduce over-capacity and increase the cost-effectiveness of research and management.

Oregon State University's Graduate Certificate in Fisheries Management integrates diverse approaches and perspectives to find effective solutions for complex fisheries management problems at all levels, local to international.

#### Certificate Overview:

The graduate certificate is available for completion online or on-campus and is designed to accommodate the needs of private, agency and NGO professionals, decision-makers and graduate students in the U.S. and other nations.

**Current Graduate Students:** You must notify the Department of Fisheries and Wildlife of your intention to pursue this certificate. Upon consultation with the certificate program directors, you will be given instructions regarding listing courses on your program of study and obtaining the required signature for that form.

For more information, please see our program site on the Ecampus website at <http://ecampus.oregonstate.edu/online-degrees/graduate/fisheries-management/> and our departmental website at <http://fw.oregonstate.edu> or contact the program coordinator at [fw.gradadvising@oregonstate.edu](mailto:fw.gradadvising@oregonstate.edu).

**Professionals and other students:** You must notify the Department of Fisheries and Wildlife of your intention to pursue this certificate.

Please contact Certificate Program Director Dr. Bruce Dugger, [bruce.dugger@oregonstate.edu](mailto:bruce.dugger@oregonstate.edu), or Graduate Program Coordinator [fw.gradadvising@oregonstate.edu](mailto:fw.gradadvising@oregonstate.edu).

#### The certificate requires:

- 18 credits of total course work, taken online and/or on-campus,
- A capstone project (applying knowledge and skills to a fisheries management issue), equivalent in time and effort to a 3-credit course;
- A minimum of two courses from the human dimensions area;
- A minimum of two courses from the fisheries science and ecology area;
- For further information, please see our website or email: [fw.gradadvising@oregonstate.edu](mailto:fw.gradadvising@oregonstate.edu).

Courses are offered on-campus, at the Hatfield Marine Science Center, and/or online. Check the course catalog and schedule of classes for location and term offered.

### **Capstone project**

FW 506. Projects (3 credits)

### **Human Dimensions Subject Area**

*Select at least 2 courses for a minimum 6 credits from below:*

AEC 534. Environmental and Resource Economics (3)

AEC/MRM 552. Marine Economics (3)

ANTH 581. Natural Resources and Community Values (4)

COMM 540. Theories of Conflict and Conflict Management (3)

COMM 542. Bargaining and Negotiation Processes (3)

COMM 544. Third Parties in Dispute Resolution: Mediation/Arbitration (3)

COMM 546. Communication in International Conflict and Disputes (3)

FES 585. Consensus and Natural Resources (3)

FW 514. Professional Development: Meeting Communications (1)

FW 515. Fisheries and Wildlife Law and Policy (3)

FW 522. Introduction to Ocean Law (3)

FW 537. Structured Decision Making in Natural Resource Management (2)

FW 549. History of Fisheries Science (3) (*Ecampus only*)

FW 620. Ecological Policy (3)

MRM 521. Ocean Law (3)

MRM 530. Principles and Practice of Marine Resource Management (3)

MRM 535. Rights-Based Fisheries Management (3)

PS 575. Environmental Politics and Policy (4)

PS 576. Science and Politics (4)

PS 577. International Environmental Politics and Policy (4)

SOC 580. Environmental Sociology (4)

SOC 581. Society and Natural Resources (4)

### **Fisheries Science and Ecology Subject Area:**

*Select at least 2 courses for a minimum 6 credits from below:*

FE 530. Watershed Processes (4)

FW 519. The Natural History of Whales and Whaling (3)

FW 520. Ecology and Management of Marine Fishes (3)

	<p>FW 521. Aquatic Biological Invasions (4)  FW 524. Introduction to Fisheries Assessment (3)  FW 531. Dynamics of Marine Biological Resources (4)  FW 538. Structured Decision Making in Natural Resource Management Lab (2) (<i>Ecampus only</i>)  FW/FES 545. Ecological Restoration (4)  FW 554. Fishery Biology (4)  FW 556. Limnology (5)  FW 562. Ecosystem Services (3)  FW/BI 564. Marine Conservation Biology (3)  FW 565. Marine Fisheries (4)  FW 571. Environmental Physiology of Fishes (4)  FW 573. Fish Ecology and Conservation (4)  FW 574/OC 574. Early Life History of Fishes (4)  FW 576. Fish Physiology (4)  FW 579. Wetlands and Riparian Ecology (3)  FW 580. Stream Ecology (3)  FW 597. Aquaculture (3)  FW 599. Special Topics in Fisheries and Wildlife (2 or 4)  FW 620. Ecological Policy (3)  OEAS 540. The Biogeochemical Earth (4)  TOX 555. Ecotoxicology: Aquatic Ecosystems (3)</p> <p><i>Total=18 credits</i></p> <p>Other courses may be substituted upon approval of the certificate director.</p>
Application process	<p>Current OSU students can add this certificate by completing the change of major/degree form.</p> <p>External applicants submit OSU grad application, transcripts, TOEFL if international, to the Graduate School.</p> <p>Must meet regular GPA standards, accreditation and TOEFL standards.</p> <p><b>Certificate students who later want to begin a master's program can submit the change of degree/major form since they have already undergone a full admissions review.</b></p>

Name	Management for Science Profssn
Long Name	Management for Science Professionals
Proposal number	80655
Major code	CG09
CIPC code	30.1801
Dept code/College	College of Science
Start Term	Fall 2010
Status as of Jan. 2018	Inactive
Web site	n/a
Contact information	n/a
Catalog details	n/a
Application process	<p>Policy when admitting applicants was:</p> <p>Current OSU students could add this certificate by completing the change of major/degree form.</p> <p>External applicants submitted OSU grad application, transcripts, TOEFL if international, to the Graduate School.</p> <p>Must meet regular GPA standards, accreditation and TOEFL standards.</p> <p>Certificate students who later wanted to begin a master's program submitted the change of degree/major form since they had already undergone a full admissions review.</p>

Name	Public Health
Long name	Public Health
Proposal number	82511
Major code	CG10
CIPC code	51.2201
Dept code/College	College of Public Health and Human Sciences
Start Term	Summer 2012
Status as of Jan. 2018	Active
Web site	<a href="http://ecampus.oregonstate.edu/online-degrees/graduate/public-health/">http://ecampus.oregonstate.edu/online-degrees/graduate/public-health/</a>
Contact information	Suzanna Chase, Mgr. of Graduate Admissions <a href="mailto:Suzanna.chase@oregonstate.edu">Suzanna.chase@oregonstate.edu</a> 541-737-5616
Catalog details	<p><a href="http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG10&amp;college=23">http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG10&amp;college=23</a></p> <p><b>Also available via <a href="#">Ecampus</a>.</b></p> <p><b>MPH Core Courses (17 credits)</b></p> <p>H 512. Introduction to Environmental and Occupational Health Sciences (3)  H 524. Introduction to Biostatistics (4)  H 525. Epidemiological Methods I (3)  H 533. Health Systems Organization (3)  H 571. Principles of Health Behavior (3)</p> <p><b>Electives (3 credits)</b></p> <p>H 530. Health Policy Analysis and Politics (3)  H 536. Healthcare Organizational Theory and Behavior (3)</p> <p><i>Total=20 credits</i></p>
Application process	<b>The program decides if the GPA is acceptable. The Graduate School verifies only that an acceptable prior degree has been earned. Those external applicants who want to later earn a masters degree must apply and submit full documents for review. They cannot use a change of degree form.</b>



Name	College and Univ Teaching
Long name	College and University Teaching
Proposal number	83870
Major code	CG11
CIPC code	13.1299
Dept code/College	Graduate School
Start Term	Winter 2013
Status as of Jan. 2018	Active
Web site	<a href="http://gradschool.oregonstate.edu/graduate-certificate-college-and-university-teaching">http://gradschool.oregonstate.edu/graduate-certificate-college-and-university-teaching</a>
Contact information	Jessica Beck <a href="mailto:Jessica.beck@oregonstate.edu">Jessica.beck@oregonstate.edu</a> 541-737-8576
Catalog details	<p><a href="http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG11&amp;college=09">http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG11&amp;college=09</a></p> <p><b>Also available via <a href="#">Ecampus</a>.</b></p> <p>The 18-credit graduate certificate in College and University Teaching is designed to provide advanced course work and experiential learning opportunities to current graduate students who plan to pursue careers in teaching and instruction in higher education settings or who plan to pursue careers that require similar skill sets in facilitation.</p> <p>Core courses focus on educational/learning theory and instructional strategies for working with adult learners. The specialized course work includes student-selected course work, workshops, and/or other approved experiences appropriate to the student's field of study. The supervised teaching internship will allow students to engage in supervised field experiences to practice and refine instructional skills. The capstone teaching portfolio will provide a culminating professional development experience for students.</p> <p>For further information, Jessica Beck, <a href="#">Assistant Dean of Graduate Student Development</a>, 413 Learning Innovation Center, 541-737-8576, <a href="mailto:jessica.beck@oregonstate.edu">jessica.beck@oregonstate.edu</a>; website: <a href="http://gradschool.oregonstate.edu/graduate-certificate-college-and-university-teaching">http://gradschool.oregonstate.edu/graduate-certificate-college-and-university-teaching</a>.</p> <p>The general structure of the certificate is:</p> <ul style="list-style-type: none"> <li>• Core course work (6 credits; fulfilled by GRAD 560 (3) and GRAD 561 (3))</li> <li>• Supervised teaching internship (3 credits; fulfilled by GRAD 610 (3))</li> <li>• Capstone teaching portfolio (3 credits; fulfilled by GRAD 607 (3))</li> </ul>

	<p><i>Specialized course work and experiences (6 credits; fulfilled by any of the courses listed below)</i></p> <p>AED 553. Applied Instructional Strategies (3)  BI 507. Seminar (1)  CH 584. Instruments and Online Interactions in the Sciences (3)  ED 562. Introduction to Educational Research (3)  ED 596. Technology for Educators (3)  ENGR 555. Foundation of Engineering Education Research and Practice (3)  ES 599. Special Topics (3)  GRAD 505. Reading and Conference (2)  GRAD 512. Current Issues in Higher Education (3)  GRAD 520. Responsible Conduct of Research (2)  GRAD/WGSS 542. The Inclusive Classroom: Difference, Power &amp; Discrimination (3)  GRAD 550. Introduction to Online Course Development and Facilitation (2)  GRAD 599. Special Topics (1–3)  LEAD 543. Leadership Through Conversations (3)  PSY 599. Special Topics (4)  SED 596. Methods of College Teaching in Mathematics and Science (3) <b>[Terminated fall 2017]</b>  SED 599. Topics in Science Education (3)  TOX 507/607. Seminar (1)  WGSS 535. Feminist Teaching and Learning (4)  WLC 599. Special Topics (1–3)  WR 520. Studies in Writing (4)</p>
Application process	<p>External applicants complete OSU application and are fully reviewed. Certificate-only students can complete the change of degree form if they wish to continue to a master’s. Internal applicants must complete the change of degree form and a supplementary Qualtrics or other survey managed by the GCCUT program director’s staff.</p>

Name	Wildlife Management
Long name	Wildlife Management
Proposal number	94163 (original); curriculum revised by proposal 101725, effective summer 2018
Major code	CG12
CIPC code	03.0601
Dept code/College	Fisheries and Wildlife/College of Agricultural Sciences
Start Term	Summer 2015
Status as of Jan. 2018	Active
Web site	<a href="https://fw.oregonstate.edu/fisheries-and-wildlife/fisheries-or-wildlife-management-graduate-certificate">https://fw.oregonstate.edu/fisheries-and-wildlife/fisheries-or-wildlife-management-graduate-certificate</a>
Contact information	Bruce Dugger, Director Bruce.dugger@oregonstate.edu 541-737-2465 Susie Dunham, program coordinator <a href="mailto:Susie.dunham@oregonstate.edu">Susie.dunham@oregonstate.edu</a> 541-737-2642
Revised catalog details effective summer 2018, proposal 101725  Original requirements from proposal 94163 follow this section.	<p>The certificate requires:</p> <ul style="list-style-type: none"> <li>• A minimum of 5 courses and 18 credits of total coursework;</li> <li>• A Capstone Project (applying knowledge and skills to a wildlife management issue), equivalent in time and effort to a 3-credit course (FW 506 Projects);</li> <li>• A minimum of one course from the Human Dimensions area;</li> <li>• Three to four courses from the Wildlife Sciences and Management Subject Area</li> <li>• For further information, please see our website or email: <a href="mailto:fw.gradadvising@oregonstate.edu">fw.gradadvising@oregonstate.edu</a>.</li> </ul> <p>Courses are offered through Corvallis, at Hatfield Marine Science Center, and through Ecampus. Check the course catalog and schedule of classes for location and term offered.</p> <p><b>Capstone project - required</b></p> <p>FW 506. Projects (3)</p> <p><b>Human Dimensions Subject Area (select 1 course):</b></p> <p>FW 515. Fisheries and Wildlife Law and Policy (3) FW 560. Psychology of Environmental Decisions (3) FW 620. Ecological Policy (3) PS 577. International Environmental Politics and Policy (4) SNR 520. Social Aspects of Sustainable Natural Resources (3) SNR 522. Basic Beliefs and Ethics in Natural Resources (3)</p>

	<p><b>Wildlife Sciences and Management Subject Area (select 3-4 courses):</b></p> <p><i><b>Wildlife sciences and management:</b></i>  FW 514. Professional Development: Meeting Communications (1)  FW 519. The Natural History of Whales and Whaling (3)  FW 527. Principles of Wildlife Diseases (4)  FW 540. Vertebrate Population Dynamics (4)  FW 551. Avian Conservation and Management (3)  FW 558. Mammal Conservation and Management (4)  FW 563. Conservation Biology of Wildlife (3)  FW 575. Wildlife Behavior (4)  FW 581. Wildlife Ecology (3)  FW 583. Species Recovery Planning and Restoration (3)</p> <p><i><b>Habitat science, restoration, and management:</b></i>  FW 521. Aquatic Biological Invasions (4)  FW 526. Coastal Ecology and Resource Management (5)  FW/OS 534. Estuarine Ecology (4)  FW 535. Wildlife in Agricultural Ecosystems (3)  FW/FES 545. Ecological Restoration (4)  FW/FES 552. Forest Wildlife Habitat Management (4)  FW 562. Ecosystem Services (3)  FW 579. Wetlands and Riparian Ecology (3)  SNR 530. Ecological Principles of Sustainable Natural Resources (3)  SNR 540. Global Environmental Change (3)</p> <p><i>Total = a minimum of 18 credits</i></p>
Catalog details	<p><a href="http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG12&amp;college=01">http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG12&amp;college=01</a></p> <p><b>Also available via <a href="#">Ecampus</a>.</b></p> <p>All courses listed are offered online through Ecampus, and this graduate certificate is designed primarily for online students.</p> <p>Please contact Certificate Program Director Dr. Bruce Dugger, <a href="mailto:bruce.dugger@oregonstate.edu">bruce.dugger@oregonstate.edu</a>, or Graduate Program Coordinator <a href="mailto:fw.gradadvising@oregonstate.edu">fw.gradadvising@oregonstate.edu</a>.</p> <p><b>Curriculum</b></p> <p>FW 506. Projects: <i>Capstone Project</i> (3)</p>

## **Wildlife Sciences Core**

*Select at least two courses from below:*

- FW 519. The Natural History of Whales and Whaling (3)
- FW 521. Aquatic Biological Invasions (4)
- FW 527. Principles of Wildlife Diseases (4)
- FW 535. Wildlife in Agricultural Ecosystems (3)
- FW 538. Structured Decision Making in Natural Resource Management Lab (2)
- FW 540. Vertebrate Population Dynamics (4) *Ecampus only.*
- FW/FES 545. Ecological Restoration (4)
- FW 551. Avian Conservation and Management (3)
- FW/FES 552. Forest Wildlife Habitat Management (4)
- FW 558. Mammal Conservation and Management (4)
- FW 562. Ecosystem Services (3) *counts as FW core OR Human Dimensions*
- FW 563. Conservation Biology of Wildlife (3)
- FW 575. Wildlife Behavior (4)
- FW 579. Wetlands and Riparian Ecology (3)
- FW 581. Wildlife Ecology (3)
- SNR 530. Ecological Principles of Sustainable Natural Resources (3) *Ecampus only.*
- SNR 540. Global Environmental Change (3) *Ecampus only.*

## **Human Dimensions Core**

*Select at least two courses from below:*

- AEC 532. Environmental Law (4)
- AEC 534. Environmental and Resource Economics (3)
- ANTH 581. Natural Resources and Community Values (4)
- FES 585. Consensus and Natural Resources (3)
- FW 515. Fisheries and Wildlife Law and Policy (3)
- FW 537. Structured Decision Making in Natural Resource Management (2)
- FW 562. Ecosystem Services (3) *Counts as FW core OR Human Dimensions*
- FW 583. Species Recovery Planning and Restoration (3)
- FW 620. Ecological Policy (3)
- PHL 540. Environmental Ethics (3)
- PHL 543. World Views and Environmental Values (3)
- PS 575. Environmental Politics and Policy (4)
- PS 577. International Environmental Politics and Policy (4)
- SNR 520. Social Aspects of Sustainable Natural Resources (3) *Ecampus only.*
- SNR 521. Economics of Sustainable Natural Resource Management (3) *Ecampus only.*

	<p>SNR 522. Basic Beliefs and Ethics in Natural Resources (3)  <i>Ecampus only.</i>  SOC 580. Environmental Sociology (4)  SOC 581. Society and Natural Resources (4)  WRP 599. Special Topics (3)</p> <p><b>Skills Courses</b></p> <p><i>Select at least one course from below (recommended):</i>  BOT 540. Field Methods in Vegetation Science (4)  FW 514. Professional Development: Meeting Communications (1)  GEO 544. Remote Sensing (4)  or GEOG 580. Remote Sensing I: Principles and Applications (4)  GEO 565. Geographic Information Systems and Science (4)  or GEOG 560. GIScience I: Introduction to Geographic Information Science (4)  ST 511. Methods of Data Analysis (4) (<i>Continues as ST 512, ST 513</i>)</p>
Application process	<p>Current OSU students can add this certificate by completing the change of major/degree form.</p> <p>External applicants submit OSU grad application, transcripts, TOEFL if international, to the Graduate School.</p> <p>Must meet regular GPA standards, accreditation and TOEFL standards.</p> <p><b>Certificate students who later want to begin a master's program can submit the change of degree/major form since they have already undergone a full admissions review.</b></p>

Name	Urban Forestry
Long name	Urban Forestry
Proposal number	88214
Major code	CG13
CIPC code	03.0508
Dept code/College	FES/College of Forestry
Start Term	Fall 2014
Status as of Jan. 2018	Active
Web site	<a href="http://ecampus.oregonstate.edu/online-degrees/graduate/urban-forestry/?expand=yes">http://ecampus.oregonstate.edu/online-degrees/graduate/urban-forestry/?expand=yes</a>
Contact information	Paul Ries, Director, Graduate Certificate in Urban Forestry <a href="mailto:paul.ries@oregonstate.edu">paul.ries@oregonstate.edu</a> 541-737-7660
Catalog details	<p><a href="http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG13&amp;college=05">http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG13&amp;college=05</a></p> <p><b>Only available via <a href="#">Ecampus</a>.</b></p> <p>Urban forestry involves the planning, planting, and management of trees and related vegetation in and around cities. The urban forest is made up of the mosaic of the planted landscape and native forest remnants left behind as cities have developed. Urban forestry is an academic discipline that is related to forestry, horticulture, urban planning, landscape architecture, and land use planning. Urban foresters work in municipal governments, non-profit organizations, other public agencies, and the private sector.</p> <p>The Graduate Certificate in Urban Forestry helps prepare students for leadership roles in a variety of different urban forestry programs. The course work covers important aspects of program management, policy development, and leadership. The capstone study allows the student to tailor the program to a particular interest within the field.</p> <p>Students complete 14 required credits, and take one or two elective courses resulting in a combined credits total of between 18 and 20 depending on the electives selected.</p> <p><b>Required Courses (14 credits)</b></p> <p>FES 506. Projects: Urban Forestry Capstone (3) FES/HORT 555. Urban Forest Planning, Policy, and Management (4) FES 560. Green Infrastructure (4)</p>

	<p>FES 565. Urban Forestry Leadership (2)  SNR 511. Sustainable Natural Resource Development (1)</p> <p><b>Elective Courses</b></p> <p><i>Choose one or two courses from the list below (4–6 credits total):</i></p> <p>FES/FW 545. Ecological Restoration (4)  FES/HORT 547. Arboriculture (4)  FES 554. Managing at the Wildland-Urban Interface (3)  FES 585. Consensus and Natural Resources (3)  FW 562. Ecosystem Services (3)  GEOG 551. Planning Principles and Practices for Resilient Communities (4)  GEOG 560. GIScience I: Introduction to Geographic Information Science (4)  TRAL 593. Environmental Interpretation (4)</p> <p><i>Total=18–20</i></p>
<p>Application process</p>	<p>Current OSU students can add this certificate by completing the change of major/degree form.</p> <p>External applicants submit OSU grad application, transcripts, TOEFL if international, to the Graduate School.</p> <p>Must meet regular GPA standards, accreditation and TOEFL standards.</p> <p><b>Certificate students who later want to begin a master's program can submit the change of degree/major form since they have already undergone a full admissions review.</b></p>



Name	Business Analytics
Long name	Business Analytics
Proposal number	91499
Major code	CG14
CIPC code	52.1302
Dept code/College	College of Business
Start Term	Summer 2015
Status as of Jan. 2018	Active
Web site	<a href="http://business.oregonstate.edu/graduate-certificates/graduate-certificate">http://business.oregonstate.edu/graduate-certificates/graduate-certificate</a>
Contact information	Bin Zhu, Director <a href="mailto:Bin.zhu@bus.oregonstate.edu">Bin.zhu@bus.oregonstate.edu</a> 541-737-1803
Catalog details	<p><a href="http://catalog.oregonstate.edu/MajorDetail.aspx?major=CG14&amp;college=02">http://catalog.oregonstate.edu/MajorDetail.aspx?major=CG14&amp;college=02</a></p> <p>Available on Corvallis campus and via <a href="#">Ecampus</a>.</p> <p>Today’s organizations—businesses, corporations, nonprofits and others—want to better utilize available information in operational, tactical, and strategic decision making. The information value of both in-house and third party data sets can now be leveraged using powerful emerging technologies. Increasingly organizations leverage advances in software interoperability, data exchange mechanisms and data mining and visualization techniques to better understand their operations, customers, and markets. This trend has become known as ‘data mining,’ ‘business analytics,’ ‘business intelligence’ or, nowadays, ‘big data.’</p> <p>This certificate is targeted at three types of professionals:</p> <ul style="list-style-type: none"> <li>• Managers seeking to expand the use of data analytics within their organizations.</li> <li>• Information systems professionals charged with marshaling available organizational data for analytical processes.</li> <li>• Business analytics professionals performing data analysis to support decision making, strategy formation, and operational improvement.</li> </ul>

	<p><b>Required Courses</b></p> <p>BA 555. Practical Business Analysis (3) BA 572. Advanced Information Systems (3) BA 573. Data Analytics for Competitive Advantage (3) BA 574. Data Management (3) BA 575. Data Exploration and Visualization (3) BA 576. Data and Text Mining (3) BA 577. Integrated Business Analytics Project (3)</p> <p><i>Total=21</i></p>
Application process	Current web site indicates they require a 3.00. My notes indicate that the certificate was initially set up with a minimum 2.75 GPA for admission.

Name	Forests and Climate Change
Long name	Forests and Climate Change
Proposal number	92838
Major code	CG15
CIPC code	03.0599
Dept code/College	FES/College of Forestry
Start Term	Summer or Fall 2015
Status as of Jan. 2018	Active
Web site	<a href="http://ecampus.oregonstate.edu/online-degrees/graduate/forests-climate-change/">http://ecampus.oregonstate.edu/online-degrees/graduate/forests-climate-change/</a>
Contact information	Badege Bishaw, Director <a href="mailto:badege.bishaw@oregonstate.edu">badege.bishaw@oregonstate.edu</a> 541-737-9495
Catalog details	<p><a href="http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG15&amp;college=05">http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG15&amp;college=05</a></p> <p>This certificate is delivered primarily by <a href="#">Ecampus</a> though some courses may also be offered on the Corvallis campus.</p> <p>Forests worldwide have begun to be impacted by global climate change, and over the coming century, they will be profoundly altered by it. The adaptation of managed forests to climate change may require both silvicultural and genetics-based options. Because forests have the capacity to both emit and sequester carbon dioxide, a leading greenhouse gas contributing to climate change, there is tremendous interest in managing forests for the mitigation of climate change. These considerations suggest that a good understanding of the relationship between forests and climate change will be a critical requirement for the sustainable management of forest resources. The Forests and Climate Change (FCC) graduate certificate is designed to provide a thorough grounding in methods for assessing the impacts of climate change on forests, the evaluation of proposed adaptation strategies, and the development of management practices to enhance forest carbon sequestration for the mitigation of climate change.</p> <p>The Forests and Climate Change graduate certificate is appropriate for many students, especially mid-career, company, industry or agency employees who want more training and experience in natural resources management and climate change.</p> <p><b>Required Core Courses</b></p> <p>FES/MNR 500. Market Tools for Managing Greenhouse Gas Emissions (3) FES 536. Carbon Sequestration in Forests (2) MNR 538. Adapting Forests to Climate Change (3)</p>

	<p>MNR 550. Climate Change Impacts on Forest Ecosystems (3)  SNR 506. Independent Project in Natural Resource Sustainability (2)</p> <p><b>Recommended Electives</b></p> <p>FOR 526. Forest Carbon Measurements and Analysis (4) [<a href="#"><i>Pending approval</i></a>]  SNR 511. Sustainable Natural Resource Development (1)  SNR 530. Ecological Principles of Sustainable Natural Resources (3)  SNR 540. Global Environmental Change (3)</p> <p>Additional elective courses will be considered in consultation with the FCC Program Director Badege Bishaw.</p> <p><i>Total=19</i></p>
<p>Application process</p>	<p>Current OSU students can add this certificate by completing the change of major/degree form.</p> <p>External applicants submit OSU grad application, transcripts, TOEFL if international, to the Graduate School.</p> <p>Must meet regular GPA standards, accreditation and TOEFL standards.</p> <p><b>Certificate students who later want to begin a master's program can submit the change of degree/major form since they have already undergone a full admissions review.</b></p>

Name	Financial Planning
Long name	Financial Planning
Proposal number	98640
Major code	CG16
CIPC code	52.0804
Dept code/College	College of Business
Start Term	Summer 2017
Status as of Jan. 2018	Active
Web site	<a href="http://business.oregonstate.edu/mba/academics/onlineportland-degree-programs/graduate-certificate-financial-planning">http://business.oregonstate.edu/mba/academics/onlineportland-degree-programs/graduate-certificate-financial-planning</a>
Contact information	Prem Mathew, Director <a href="mailto:Prem.Mathew@bus.oregonstate.edu">Prem.Mathew@bus.oregonstate.edu</a> <a href="tel:541-737-6030">541-737-6030</a>
Catalog details	<p><a href="http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG16&amp;college=02">http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG16&amp;college=02</a></p> <p><b>Available on the Corvallis campus and via <a href="#">Ecampus</a>.</b></p> <p><b>Required</b></p> <p>BA 540. Corporate Finance (3)  FIN 542. Investments (3)  FIN 551. Insurance and Tax Planning I (4)  <b>or</b> FIN 550. Fundamentals of Financial Planning (4)  FIN 552. Financial Planning II (3)  FIN 553. Financial Planning III (6)  MRKT 588. Personal Selling (4)</p> <p><i>Suggested Course Schedule:</i></p> <p><i>Summer</i></p> <p>BA 540. Corporate Finance (3)  MRKT 588. Personal Selling (4)</p> <p><i>Fall</i></p> <p>FIN 542. Investments (3)  FIN 551. Insurance and Tax Planning I (4)</p> <p><i>Winter</i></p> <p>FIN 552. Financial Planning II (3)</p> <p><i>Spring</i></p> <p>FIN 553. Financial Planning III (6)</p>

Application process	<p>Current OSU students can add this certificate by completing the change of major/degree form.</p> <p>External applicants submit OSU grad application, transcripts, TOEFL if international, to the Graduate School.</p> <p>Must meet regular GPA standards, accreditation and TOEFL standards.</p> <p>Certificate students who later want to begin a master's program can submit the change of degree/major form since they have already undergone a full admissions review.</p>
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Name	Data Analytics
Long name	Data Analytics
Proposal number	93153
Major code	CG17
CIPC code	27.0599
Dept code/College	College of Science
Start Term	Fall 2016
Status as of Jan. 2018	Active
Web site	<a href="http://stat.oregonstate.edu/content/graduate-major-programs">http://stat.oregonstate.edu/content/graduate-major-programs</a>
Contact information	Virginia Lesser <a href="mailto:lesser@science@oregonstate.edu">lesser@science@oregonstate.edu</a> 541-737-3366
Catalog details	<a href="http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG17&amp;college=08">http://catalog.oregonstate.edu/MajorDetail.aspx?Major=CG17&amp;college=08</a>  <b>Offered via <a href="#">Ecampus</a> only.</b>  ST 516. Foundations of Data Analytics (4) ST 517. Data Analytics I (4) ST 518. Data Analytics II (4) ST 558. Multivariate Analytics (3) ST 566. Time Series Analytics (3)  <i>Total=18 credits</i>
Application process	Current OSU students can add this certificate by completing the change of major/degree form.  External applicants submit OSU grad application, transcripts, TOEFL if international, to the Graduate School.  Must meet regular GPA standards, accreditation and TOEFL standards.  <b>Certificate students who later want to begin a master's program can submit the change of degree/major form since they have already undergone a full admissions review.</b>