

## 3D Modeling and Jewelry Design Syllabus

#	Module	Hours			Type of training	Credits	Teaching language	Notes
		total	contact	independent study				
1	3D Modeling and Jewelry Design	72	36	36	Practical training	2	Russian*	

\* Module taught in Russian can be provided by English interpretation

**Instructor:** Svetlana Petrova, Senior Lecturer of the Department of Gems and Precious Metals Processing Technology of North-Eastern Federal University

**Location:** KFEN, Kulakovsky Str., 48

**Course objectives:** Provide the students with solid knowledge in the computer technology and creative ability to solve professional problems in jewelry design with the use of computer simulation tools.

### Course outline:

#	Topics of practical training	Content
1	The basic principles of the program JewelCad.	The possibilities for the design of jewelry of any complexity. Manufacturing practice. Modeling tools that allow making free artistic and stylish design. Options for complex structures: to create and modify curves and surfaces, for designing necklaces, twisting surfaces and the placement of stones, for an arbitrary cut-and-subtract surfaces.
2	Library design components.	Library of stone and fixtures. Library of basic materials and components. Modular build-up to the user library. Ability to generate new designs by extracting parts or components from already developed objects.
3	Editing objects.	Cancel the last command Undo. Re-running the last unfinished command Redo. Delete - delete objects from the screen. Deleting an object from the screen Edit - Delete. Edit - Undelete - the challenge of previously deleted objects. Hide - hide objects that are on the screen. Edit - Hide - command removes objects from the screen. Unhide to show previously hidden objects. Edit - Unhide - command displays previously hidden objects on the screen. Swap Hide - to make an exchange between the visible and hidden objects. Edit - Swap Hide - the team is doing an exchange between visible and hidden objects.
4	Determination of objects like stones.	Hide Jewel hide the image of stone, located on the screen. Team removal of stones from the screen image (Edit - Hide Jewel). Show Jewel show the hidden gems on the screen. Teams identify objects like stones - Be Jewel.
5	Deformable – deform object.	Deform–Size-resizing objects. Deform – Flip - Rotating objects. Deform - Object Axis и Deform–Transform. Teams strain: Bend, Taper, Scaled Taper, Skew, Twist, Skew Twist or Whirl.
6	Appointment material to an object.	Changes in material objects Edit - Material. Panel directories and the panel materials. Different ways to determine and edited with the material. Groups of parameters to define material: Base color, Mapping and Appearance.
<b>Assessment (оценивание)</b> 95 – 100 points – A 85 – 94 points – B 75 – 84 points – C 65 – 74 points – D 55 – 64 points – E 45 – 54 points – FX Less than 44 points – F		<b>Readings samples:</b> 1. <a href="http://www.3dmaster.ru/lessons/">http://www.3dmaster.ru/lessons/</a> 2. <a href="http://www.3dmir.ru/s_tutor/tutor/406.html">http://www.3dmir.ru/s_tutor/tutor/406.html</a>